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Information: Moving It, Managing It
Toward Tomorrow's Information Network

The Great Long Distance Race

They Don't Come Any Tougher

In the Small, Smart World of Microchips

Hello World, This Is AT&T Calling



American Telephone and Telegraph Company

1987 Annual Meeting

The 102nd Annual Meeting of AT&T shareowners will be held at 9:30 a.m. on Wednesday, April 15, 1987, at the Prime Osborn Convention Center in Jacksonville, Florida.

Stock and Bond Information

Information about AT&T common and preferred stock, bonds, dividends or interest payments and about the Dividend Reinvestment and Stock Purchase Plan can be obtained from the company's transfer agent, American Transtech Inc., by calling: 1 800-348-8288. Mailed inquiries should be addressed to AT&T, c/o American Transtech, P.O. Box 45048, Jacksonville, Florida, 32232-5048.

Certificates and documents in support of stock transfers should also be sent to the above address.

American Transtech maintains an office for bank and broker services at 22 Cortlandt Street, 10th Floor, New York, NY 10007-3170.

Shareowner Information

Available upon request by writing to:

Secretary's Department, AT&T Shareowner Relations, Room 3200P2, 550 Madison Avenue, New York, NY 10022-3297

- Form 10-K, AT&T's annual report to the Securities and Exchange Commission
- For visually impaired shareowners, the AT&T annual report on audio cassette

Secretary, AT&T Foundation, Room 2700, 550 Madison Avenue, New York, NY 10022-3297

- A report on AT&T philanthropy in 1984 and 1985

Treasury Department, AT&T Credit Corporation, Room 3157, 44 Whippany Road, Morristown, NJ 07960-4523

- AT&T Credit Corporation's annual report

General questions or comments about the Company should be directed to:

Corporate Vice President and Secretary, AT&T, Room 3309, 550 Madison Avenue, New York, NY 10022-3297

The telephone number of AT&T headquarters in New York City is 212-605-5500

AT&T's Business

AT&T's business activities—from research and development, through manufacturing and network operations, to marketing, sales and service—are focused on providing solutions to meet customer needs for the movement and management of information.

The company is building on its strength in network design and systems engineering to develop data networking solutions for customers that will help them to connect their equipment and information sources through fully integrated systems that they can direct and control themselves.

To make AT&T a truly international business, the company is establishing itself in key global markets by working with—and through—strategic overseas partners.

The company has been reorganized into business units that serve the needs of businesses, consumers, telephone companies and other communications suppliers. Services and products include voice, data and image telecommunication services; telephone products, ranging from voice instruments to complex switching and transmission systems; computers for integrated networks and for stand-alone uses; and components for high-technology products and systems.

About the Cover

Four of the people upon whom AT&T's future rests: (from left) Janet Bushell, national account manager; Charles Casey, account executive; Patricia Cassidy, national account manager; Philip Johnson, account executive.

Report of the Chairman

Dear AT&T Shareowner:

As the months passed in 1986 and we looked closely at our progress since the breakup of the Bell System, it became clear that the company was on the right road but in the wrong lane.

There is no question in our minds that the business of information movement and management, with its promise of strong growth and global markets, is the right business for AT&T. It is a future-oriented business, to which we bring expertise in networking and systems engineering as well as formidable resources in people, in research and development, and in manufacturing and marketing.

But our earnings have been flat, our costs too high, and our results mixed. In some parts of the business we have demonstrated our ability to compete very well. In other parts our efforts have been disappointing.

Rather than simply continuing to go along as we were, making incremental improvements here and there, we concluded that the time had come to reorient the company's direction. To more sharply focus our activities and resources. To build on our existing strengths in such a way as to position ourselves for the long term to be the leader in the movement and management of information. To continue driving down our costs. In short, to begin moving into a faster lane.

The way ahead is not assured. Our competitors are strong and no less determined than we. But we have developed and begun following a strategy that I believe will take us where we want to go.

STRATEGY

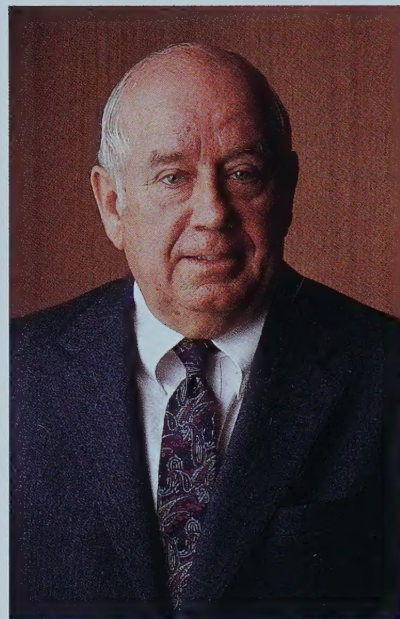
Our "single enterprise strategy" has three priorities:

The first concerns our current core businesses: long distance services, communications equipment for office and home use, and network telecommunications equipment. Where we are market leaders, we intend to retain and enhance our position. Where our performance has fallen short of our expectations, we intend to increase revenues by strengthening our marketing and sales efforts.

We will lower our costs and improve our profit margins over time in all of these core businesses. And we will grow stronger in these businesses while, at the same time, we also pursue other, faster growing markets.

One such market is data networking, which is the focus of our second strategic priority. There is a growing need in business, government and other markets to tie individual communications and data systems together into information networks. Although AT&T and other companies are just beginning to try to satisfy that need, we believe we are well positioned to lead the way because

(continued on page 2)



*James E. Olson
Chairman of the Board*

Financial Results—In Brief

In 1986, the company took actions to restructure and resize its business in line with its refocused strategy. These and other actions required substantial charges to our earnings.

The charges reduced net income by \$1.7 billion, resulting in only a small profit for the year. The actions are designed to strengthen the company and make it more competitive, building a base for greater returns to shareowners in the future.

While long distance revenues were strong, overall sales declined because of weak markets for some products as well as lower revenues from rental of equipment.

Strong cash flow enabled the company to reduce its reliance on external financing and decrease outstanding debt by more than \$1 billion.

FINANCIAL HIGHLIGHTS

Dollars in millions (except per share amounts)

	1986	1985
For the Year:		
Total Operating Revenues	\$34,087	\$34,417
Net Income	139*	1,557
Total Debt at Year-End	8,049	9,121
Per Common Share:		
Earnings	\$.05*	\$ 1.37
Dividends Declared	1.20	1.20
Book Value at Year-End	12.64	13.68
Market Value at Year-End	25	25

*Results for 1986 have been significantly affected by major charges for business restructuring, an accounting change, and other actions which reduced net income by \$1.7 billion. See Note E, page 24.

Our first strategic priority concerns our current core businesses....Where we are market leaders, we intend to retain and enhance our position....We will lower our costs and improve our profit margins over time.

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of our experience and skill in systems engineering and in designing networks for voice communications.

And so in the months and years ahead we will direct more of our resources to providing customers with complete, innovative data networking solutions. Our initial efforts will be directed at large organizations, then to smaller users as their needs are defined and grow.

Computers are an intrinsic part of our business. We will continue to sell them on a stand-alone basis, but in a larger context we view computers as a vital element in the development and implementation of information networks. Our vision is to link computers and other customer premises equipment with public and private network facilities in ways that give customers the ability to control the movement and management of their own information.

Our third strategic priority is global in scope. It is to move more aggressively than we have heretofore in those parts of the world where the markets are most promising for data networking and high-technology products and services.

Vital to the success of this strategy is the strengthening of our existing alliances and the establishment of new international partnerships in countries where it makes strategic sense to do so.

We already have made equity investments and formed marketing arrangements with leading companies in Europe—and to a lesser extent in the Far East—that over time should produce a significant return.

AT&T has a long history of providing international communications services in conjunction with the world's leading telecommunications agencies. Now we have started making headway in developing new international markets; but because of trade barriers, international politics and strong competition, the challenges to building international markets are considerable. We do not expect success to come easily or quickly. It will take time, patience and hard work. We plan to stay the course.

Needless to say, no matter how correct our strategy is, our future rests with the men and women of AT&T who must make that strategy work.

REGULATION

Although our eyes are fixed firmly on the challenges of the marketplace, we cannot ignore regulatory restraints in the long distance business that apply to us and no others.

Regulatory policies dating back to before the breakup of the Bell System have sought to create competition in long distance telecommunications services. Those policies have largely succeeded. Our competitors in telecommunications include formidable domestic and foreign companies, including some large, profitable concerns that have merged their resources in order to increase their competitiveness. In all, there are some 500 companies offering long distance telephone service.

Over the years some of the more vexing regulatory restraints on AT&T have been changed, but the changes have come slowly.

Some state regulatory bodies have moved toward lessened regulation of long distance service. Ten state jurisdictions have eliminated traditional rate of return regulation, recognizing that market forces—with regulatory oversight—are sufficient to control prices and profits.

Although limits on earnings do not reward efficiencies, economies or innovation, our earnings on interstate services continue to be limited by federal regulation. We believe rate-base regulation should be replaced with more appropriate and creative alternatives that would continue to protect telephone customers, such as those in rural areas where competition is not yet fully effective, while, at the same time, providing all long distance companies with the incentives to give the public the benefits of a competitive marketplace.

We welcome the new efforts on the federal level to review the degree of regulation imposed on AT&T. More flexible regulation is sorely needed.

COST REDUCTION

As noted earlier, it is clearly necessary that we lower our costs to competitive levels if we are to be a profitable enterprise and an attractive investment opportunity. What does that mean in practical terms?

We can consolidate production and other facilities to bring about new efficiencies. We can introduce new systems that enable us to operate more effectively. We can replace older production methods with advanced manufacturing technologies. And we can restructure our organizations to weed out duplicate functions and offer customers better service, as in fact we are doing most notably, but by no means exclusively, in the consolidation of our Communications and Information Systems organizations.

We can do all these things—and, indeed, we are doing them. But the hard fact remains that we also must reduce substantially our force of management and non-management people.

Approximately one-third of the \$3.2 billion in charges we took in 1986 was for expenses related to reducing our workforce by some 32,000 jobs. When these job reductions are completed, we will have reduced the company's workforce since the start of 1984 by about 80,000 jobs. But we will still employ more than 290,000 people, and they will be working for a stronger company with greater prospects for success.

Understandably, the cost reduction efforts under way throughout the company have created uncertainty and anxiety among our employees. Morale has suffered. Nevertheless, there can be no ducking the responsibility to make those decisions that are in the long-term interest of the company and its employees.

And so the best—the only—thing we can do now is to put this period of uncertainty behind us as quickly as we can and to show by solid, positive results that this is a winning company. That we intend to do.

It should be noted that we are determined that our downsizing efforts in no way detract from our corporate commitments to employment opportunity and affirmative action objectives. We are closely monitoring these efforts to ensure that we do not undercut the gains already made.

We intend as well to continue demonstrating by financial and other support that we are a concerned, contributing member of society as a whole and of the communities where AT&T people live and work.

Elsewhere in this report you will find a detailed discussion and analysis of the year's results and activities, as well as some of the highlights of the year's accomplishments in our various lines of business.

Finally, this message to shareowners would not be complete without formally recognizing the contribution of Charlie Brown, who retired as chairman and chief executive officer of AT&T in September and whose unfailing strength of purpose steered us through the difficult days of divestiture. He led the company with vigor and courage through these years of transition and helped form the strategic priorities that now guide our travels forward.



JAMES E. OLSON

February 9, 1987

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...is to move more aggressively...in those parts of
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Information: Moving It, Managing It

A shiny blue van pulls up to the drive-through window of a Burger King® restaurant in Oakland, California, and the family begins to order. Burgers for the kids in back. A Whopper® sandwich for dad. The chicken sandwich for mom. A simple transaction. Hardly worth noticing.

But it *is* being noticed. In fact, before the night is over, information about the family's supper choices will be transmitted across the continent by AT&T. As soon as the cashier punches

in the order on the electronic cash register terminal, the information is stored on a microcomputer. Later in the evening, data on the restaurant's sales will be transmitted to the company's corporate headquarters in Miami over high speed AT&T data lines.

While that family in Oakland is digesting its meal, computers in Miami are digesting sales data. When the company's market researchers come to work the next morning, the data transmitted from hundreds of their restaurants will give them an immediate picture of how their products and promotions are doing, region by region. They can fine-tune their marketing strategy daily, a significant advantage in the ferociously competitive fast food industry.

Or take American Express, which is streamlining its receivable control strategy with a pilot program that relies on an AT&T solution. American Express is improving the productivity of its account analysts by freeing them to do what they do best, talking to cardmembers. These analysts at the company's western regional headquarters in Phoenix don't waste time looking up cardmembers' phone numbers, dialing them or waiting out the high percentage of no-answer calls. It's all done for them.

The American Express system uses AT&T's computer terminals, automatic dialing and call-classifying equipment, and dedicated high volume long distance lines, all orchestrated by AT&T's 3B2 minicomputers. This equipment was carefully merged with American Express' existing com-

puter facilities. When this new system connects with a cardmember, the analyst can simultaneously call up information from different data bases related to the client's account and display all the information in a split image on the computer screen.

Welcome to the world of information movement and management, where the ability to transport and process information electronically is increasingly used to make companies more competitive and profitable by achieving fundamental improvements in the way they do business. It is a worldwide market estimated at over \$500 billion a year, and growing at 14 percent annually as business begins to understand its true potential.

"Information is the essence of what makes today's economy run," comments Mike Johnson, an AT&T marketing manager. "And AT&T today is the essence of an information company."

The company is combining its traditional communications and networking leadership with its increasing strengths in computers and other forms of information management technology. The result is a growing family of products and services that can be used individually or as part of an integrated system tailored to help a specific company use information as a strategic tool.

AT&T's approach to offering these system solutions is built around data networking.

Data networking means connecting the separate parts of a business by means of an integrated electronic information system that makes people more productive by

getting them the right information at the right time. Such a system can range from simple point-to-point data transmission to highly sophisticated premises systems that process as well as move information and that work intimately with the AT&T long distance network.

The possibilities are virtually unlimited. Data networking systems could provide large banks, for instance, with an efficient way to connect their far-flung branches and diverse operations. Updating customers' accounts could be done in seconds because the electronic terminals used by bank personnel are connected to all of the bank's data bases, making it fast and easy to share information.

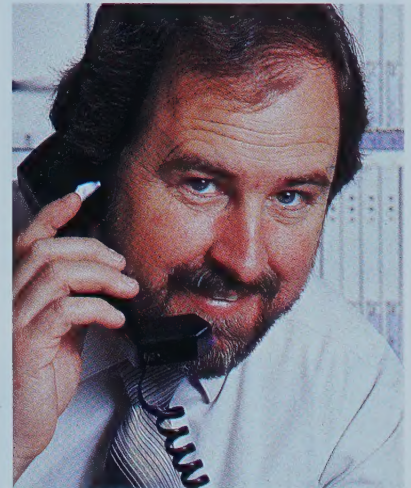
Airlines, an early leader in the productive use of electronic information, can equip their reservations agents with one electronic system that combines flight reservations, car rentals, hotel accommodations and other services. The result would be expanded service, delivered faster.

® Registered trademark, Burger King Corporation





Data networking solutions are simulated at the Product Integration Center run jointly by AT&T and Electronic Data Systems Corporation.



Selling with service

Retailers could have new power to control inventories by tying in their point-of-sale cash register terminals directly with the computers that control their warehousing and ordering operations. Decision-makers don't have to wait for a monthly report to learn what demand for specific products looks like. An integrated data networking system could update that information minute-by-minute and deliver it wherever it's needed.

There are still technical doors to be unlocked. And AT&T, with its unmatched experience in designing and operating large, complex electronic information networks, is in a strong position to open them.

AT&T's PBXs and related customer premises equipment can be combined with its computers and marketed as part of the company's data networking systems—systems that are designed to be compatible with computers and other equipment made by other manufacturers, not just by AT&T.

In addition, the AT&T long dis-

tance network is an invaluable asset to the company's data networking strength. It handles 32 million calls a day and transmits voice, data and video images around the U.S. and around the world, as well as providing special network services.

For multinational companies with a vested interest in worldwide networks, AT&T is the logical choice.

The Black & Decker company is the world's leading producer and marketer of power tools and household products. Operating manufacturing and assembly facilities in 12 countries and marketing its products in over 100 countries, Black & Decker needed an efficient way to move information between its Towson, Maryland, headquarters and its overseas facilities. The company's solution was to create an integrated messaging service on a global scale using AT&T's minicomputers and electronic mail and voice mail systems.

As Denise Saul, an AT&T account executive, says: "We helped Black & Decker make the world smaller." ■

When Dick Nathan visits an office in his hometown of Portland, Oregon, he's there to install or service one of AT&T's business communications systems. But this systems technician knows a service call can do double duty as a sales call. "When the customers see us out there doing a good service job for them and treating them right," says Dick, "it has to make a difference later when they make a buying decision." Dick is ready to make a sale himself when he sees the opportunity. He completed an advanced program in personal selling techniques, and now he instructs his fellow service technicians. "We spend a lot of time in face-to-face contacts with customers, and it makes sense to use some of that time to tell the customer about what AT&T has to offer."

Toward Tomorrow's Information Network

Normally if people try a new product and don't notice a difference, you've struck out. But when AT&T tried a new technology and no one noticed a change in performance, that meant success.

Called "wideband packet technology," it is being explored by AT&T Bell Laboratories as a more efficient way to move and manage information in the future. Voice, data and images are combined and transported interchangeably on the same facilities.

The technology could be a cornerstone of AT&T's network of the future and provide a basis for future generations of AT&T products.

Some 5,000 AT&T people in four locations in the San Francisco Bay area were linked together in a year-long field experiment concluded in 1986.

Carol Armitage, a project manager for the experiment and an engineer with Bell Laboratories since 1979, explains: "People made phone calls and sent data and pictures with the same ease as if they were simply using the regular telephone network. Virtually no one noticed any difference."

Importantly, there was no perceptible loss of transmission quality in sending voice signals, a problem that prevents today's data packet switches from being used for voice. This problem was solved with faster transmis-



Flashing on and off millions of times a second, lasers have become a driving force of the Information Age. Researchers such as Anthony Johnson have helped maintain AT&T's lead in lightwave technology.



sion and switching speeds.

Besides the increased capacity made possible by wideband packet technology, it promises to give customers the freedom to shape network capabilities to best suit their own particular needs.

Gus Zimmerman, who works on exploratory switching networks, describes the new technology in lyrical terms: "You might say that it performs an elegant digital symphony. In simple terms, various types of messages are converted to bits, assembled in short groups or packets, then propelled together with packets from other sources over a single high-speed path. At their destinations, these packets are reassembled into the original messages. Conducting this symphony has required major technological innovations."

This is just one of the promising programs under way at Bell Laboratories and associated R&D facilities, where scientists and engineers are working to ensure that AT&T has the technology for a successful future.

Creating AT&T's network of the future requires extensive planning and systems engineering, but the challenges can be formidable. Consider, for example, trying to find the best solution to a problem with 800,000 variables. That was the challenge facing AT&T people in mapping out the company's future alignment of lightwave, microwave and coaxial cable facilities.

"It was a mind-bending problem—until we solved it by using the Karmarkar Algorithm," says David Houck, a supervisor in Bell Laboratories' facility planning department. This new mathematical procedure, a formula for linear programming, was named for its Bell Labs creator,

30-year-old mathematician Narendra Karmarkar.

AT&T's network depends increasingly on lightwave technology—transporting vast amounts of information as speeding pulses of light.

There's one hitch. Today, all lightwave transmission systems eventually must connect with electronic switches. It would be cheaper and faster if these signals didn't need to be converted from light to electronic signals, and sometimes back to light again.

Advancing toward that goal, Bell Laboratories researchers built the first lightwave switching chip—the first chip to use light to control light. It contains switches that are turned on and off by light beams, much the way electronic transistors are turned on and off by electric charges.

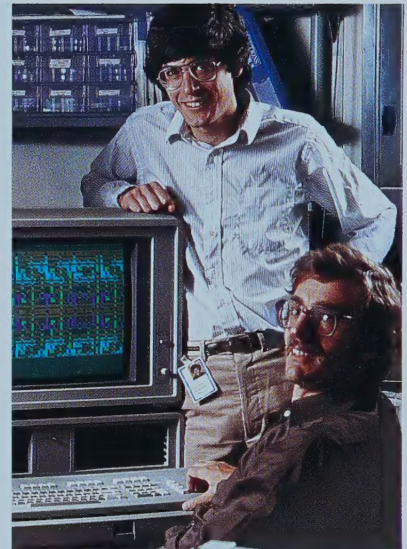
"This may become the main building block of a lightwave switching machine: a 'computer' that could keep pace with speeding light pulses by switching them up to one thousand times faster than today's electronic-based switches," according to optical computer researcher Alan Huang.

Other advances in research may bring closer a new generation of lightwave systems: systems that can send light pulses longer distances without having to be amplified along the way and that can fit many more communications channels in one hair-thin strand of glass fiber than is possible today.

In 1986 unamplified light pulses were sent nearly twice the distance that was achieved just the year before, explains lightwave researcher Tingye Li, who proudly describes the work on the world's most sensitive coherent light-pulse detector as "approaching ultimate physical limits."

The payoff could be the ability to send 10 million conversations or 10,000 digital television channels simultaneously on a single fiber.

That would be a big payoff, but it would be no surprise coming from the industrial laboratory that has become known as one of the world's foremost "idea factories." ■



Neural networkers

Hans Peter Graf (seated) and Paul deVegvar are part of a research team at Bell Laboratories devising electronic neural networks, experimental computer chips that may function like brain cells. "We are using models of brain function to give us new ideas on how to do computing," explains Hans. Both have Ph.D.'s in physics: Hans from the Swiss Federal Institute in Zurich, and Paul from Cornell. And both came to Bell Labs for the scientific excitement that comes with pushing the boundaries of known technology. "We hope these new ideas will speed up some information processing tasks and help to break some bottlenecks in computer applications," Paul says.

AT&T Bell Laboratories technical supervisor Carol Armitage and engineer Leo Yurovsky explore new system architectures in a digital services lab.

The Great Long Distance Race



"Thank you for using AT&T"

During peak hours in the operator services office on Arch Street in downtown Philadelphia, AT&T long distance operator Kathy Nelson (above) handles about 100 calls an hour. Some are routine customer assistance calls, but she's well prepared and ready to make the extra effort required by some customers, especially business callers who need special services. "Because we're here," she says of her fellow AT&T operators, "customers don't have to think about how to get the services they need. We make it happen." She gets satisfaction from being one of AT&T's primary contacts with the public, and she's mindful of her role in a competitive marketplace. "When we tell customers, 'Thank you for using AT&T,' we really mean it."

The breakup of the Bell System set off a great race, as millions of customers were asked to choose a long distance phone company. By the time the first lap ended in September, 1986, more than three-fourths of the customers representing 66.5 million business and residence lines went with AT&T.

The so-called "equal access" race, mandated by the agreement that controlled divestiture, required the local Bell operating companies to provide all long distance companies with the same "dial-1" access as AT&T. It also required that millions of customers receiving equal access be asked to choose a long distance company. Suddenly, the normal pace of the competitive marketplace for long distance services accelerated to breakneck speed as long distance companies competed fiercely for customers in this wide-open marketplace.

"Before the selection process be-

gan, we knew that only five percent of the public was even aware that AT&T was in the long distance business," says Dave Carey, director of consumer market management. "When they thought of long distance service, it was through the local telephone company." But two years later, Carey says, "Polls showed a dramatic increase—to 85 percent—in the percentage of the public that associated AT&T with long distance."

Achieving that increase took what was one of the world's most effective marketing campaigns. In 1986 alone, the company sent out more than 50 million direct mail solicitations and placed more than 19 million telemarketing calls.

Keeping track of so many customers and ballots—while controlling costs—required a highly sophisticated information movement and management capability. Using its own facilities, the company was able to convince the right customers with the right message at the right time—often

within days of a local deadline—to make the right choice.

The difficulties were great. For instance, consumers were choosing in different localities, at different times. "Our timing had to be almost perfect to get our message to customers at the right moment in their decision-making," Carey says.

Originally, consumers who did not return a ballot remained with AT&T (except customers of Northwestern Bell). But in 1985 the Federal Communications Commission ruled that customers who did not actively choose a company would be randomly assigned to one based on the percentage of customers choosing each company in a given area. That change meant a shift in AT&T's strategy. Almost overnight, the company's message was intensified and re-directed to make sure that customers knew they had to vote if they wanted to stay with AT&T.

Amidst this confusion, AT&T's key strategy was to stay close to its customers. The company took pains to understand what customers wanted in a long distance company and, through national ads, helped customers understand how to register their choice. Many of the ads featured actor Cliff Robertson, whose "believability quotient" made him a natural choice to carry AT&T's message of quality and reliability.

"We reminded customers that they had to choose, but they didn't have to change," Carey says. "And we concentrated on educating customers about the selection process, helping with the ballot, and answering questions.

"The point was to position AT&T as the helpful, honest, no-hassle long distance company—and to remind people of the traditional reliability and quality of AT&T service."

Tens of thousands of AT&T employees contributed to the effort. For instance, three Consumer Market Sales Centers, where employees normally answer incoming calls from customers, fielded equal access-related questions during the day and were staffed after hours to sell AT&T

long distance service through outgoing telemarketing calls.

Aggressive advertising and public relations efforts kept the public aware of the selection process and the benefits of AT&T service. And thousands of employees pitched in voluntarily, answering customer questions, staffing sign-up booths at state fairs, even going door-to-door to sign up friends and neighbors.

But ultimately, the outcome of the contest depended not so much on marketing skill as on value. "Customers told us exactly what they wanted," Carey says. "They wanted value for their long distance dollars."

And they knew where to find it. It wasn't just AT&T's reputation for having 24-hour long distance operators and helpful customer service representatives. AT&T also reduced its long distance prices by an average of 30 percent between 1984 and January 1987. And AT&T had introduced innovative value-added programs, including flat-rate pricing through Reach Out® America.

Meanwhile, AT&T's unsurpassed service—based on the quality, reliability and versatility of its network—continued to get even better. In 1986, the company expanded its high-quality lightguide fiber routes, which now exceed 10,000 miles.

The company completed a very ambitious four-year construction program two years ahead of schedule. That will keep AT&T's network the most advanced in the world—bar none.

The long distance race is far from over. More than 30 percent of the nation's telephone customers—some served by smaller or older switching equipment, and many in independent telephone company areas—have yet to be asked to choose.

The equal access contest also served as a reminder that while competition in the long distance market is pervasive, regulation remains uneven. AT&T is the only long distance competitor whose earnings are capped and that must go through the slow, cumbersome procedures of both



Actor Cliff Robertson helped bring home the message that AT&T long distance service means quality and value.

federal and state government regulation. And while AT&T must serve all customers, including a high proportion of low-volume users, its competitors can concentrate their efforts on heavy users in high-volume areas.

Still, AT&T's commitment to the consumer market is stronger than ever. To probe consumer needs and preferences, the company has sponsored joint research with the Consumer Federation of America and the American Association of Retired Persons. And it has completed a trial in Minnesota of a separate AT&T long distance bill that incorporates an easy-to-read format. Ultimately, the company plans to issue many customers nationwide a single bill for leased residence phones and long distance services.

"We're pleased that so many consumers are choosing AT&T as their long distance company," says Carey, "but we're not celebrating any kind of victory. We're working to keep our present customers, sign up new ones, and win back the ones we've lost. We're not taking anything for granted."

They Don't Come Any Tougher

Tough customers? They don't come any tougher, or smarter, than telephone companies.

So says Paul Andrus, a product manager with AT&T's Network Systems organization, which manufactures and sells telecommunications equipment and services to telephone companies, long distance carriers and overseas telephone agencies.

"They're very demanding customers and they expect us to give them the very best, every single time," he says.

Andrus, 36, an M.I.T. engineering graduate and Harvard M.B.A., was part of an AT&T team that in 1986 helped introduce a new digital loop carrier system for operating telephone companies. Such systems, using advanced microelectronics and software, gather data and voice traffic from the homes and offices of many subscribers and digitally combine it at a telephone central office on a few pairs of copper wires or glass fibers.

The latest version, called SLC® Series 5 carrier, provides twice the capacity of earlier systems in the same space while offering advanced service capabilities.

For AT&T's valued telephone company customers like Southern Bell, which put the first SLC carrier into service in Orlando, Florida, digital loop carrier systems lower their costs of providing regular telephone service. These systems also add efficiency to other, faster growing parts of telephone companies' business, such as WATS lines, switchboard circuits and data services.

"Each telephone company has its own individual needs, but they are all committed to using advanced digital technologies," explains Andrus. "They want to bring the benefits of these technologies—the new services they make possible—to their subscribers. So it's important that they know AT&T supports that effort across our full product line of transmission and switching equipment."

Telephone companies are hard to please, even for an award-winning salesman like Rich Brennan, a switch-

ing systems account executive who sells to Pacific Bell and understands telephone company economics.

"Telephone companies need to introduce new technology carefully, so that their investment in existing equipment continues to pay off while they are adding new systems that offer major revenue opportunities," Brennan says.

Brennan sold Pacific Bell a package—consisting of AT&T 3B20 computers, software programs and hardware elements for an advanced signaling system—that upgraded its existing 1A ESS™ switches to introduce new services without requiring costly system-wide replacements.

"Our telephone company customers are buying lots of the newer 5ESS digital switches," Brennan adds, "but they also have millions of lines of the 1A ESS switch in service. They want to keep that investment working for them."

Meanwhile, the demand for the newer 5ESS digital switch—described by one trade publication as "a legend in its time"—continues at a very strong pace. In 1986, 8.3 million customer lines were shipped from the company's Oklahoma City Works, bringing the total to 18 million lines since 1982.

Jerry Johnson, who is in charge of planning for this product, says customers for the 5ESS switch read like an international telecommunications "Who's Who": all of the major U.S. telephone companies, five overseas telecommunications authorities and, of course, AT&T itself.

"No doubt about it, we're on a roll," says Johnson, who started his AT&T career 25 years ago planning the manufacture of the first electronic switching systems.

The 5ESS switch is being readied as the nerve center of Integrated Services Digital Network (ISDN)—an all-digital network that combines voice, data and signaling services on existing customer lines. The first trial of the technology using production equipment began in December, 1986, with Illinois Bell and one of its customers, McDonald's Corporation. Other ISDN

Illinois Bell President Orm Wade (left) inaugurated the world's first simultaneous voice, data and video service via the telephone network when he called McDonald's USA President Ed Rensi at a December press conference. McDonald's chose Illinois Bell's Integrated Services Digital Network service, using AT&T's 5ESS™ switch, for maximum communications productivity to track up-to-the-minute market data and product promotions and to monitor training programs.





At left, Duncan Beech programs an inspection machine on a computerized circuit board manufacturing system.



Keeping up

When Jerry Buckles says one of AT&T's 5ESS switching systems is ready for action, it is. The 5ESS is the third generation of switching technology to come through AT&T's Oklahoma City plant in the 26 years since it was opened, and Jerry knows each of them from the ground up. A senior electronic technician responsible for final testing of 5ESS systems, he's completed a long list of company training courses in fields such as computer programming, digital analysis and advanced algebra. So it's with more than a little confidence that he says: "When a 5ESS switch leaves here, it's ready for installation."

trials are planned for 1987.

ISDN is a giant step toward the achievement of Universal Information Services—an information network of the 1990s in which telecommunications companies could provide customers with access to any kind of voice, data or image service, in any combination, at any time and place, and at an affordable cost.

"Universal Information Services," says Paul Bayliss, an AT&T network planner, "will turn telecommunications networks into giant distributed computers, putting any kind of service at customers' fingertips on demand."

AT&T's leading-edge network products are being produced in factories that use the latest manufacturing technologies and procedures.

Some examples:

—In the Merrimack Valley Works, North Andover, Massachusetts, robots can "see" the circuit packs that are being produced there and compare them optically with specifications

stored in computer memory to assure quality.

—A highly automated "flexline" in the Columbus, Ohio, Works will help AT&T meet surging demands for new network products by being able to adapt to the manufacture of new circuit pack types in less than a day.

—A continuous integrated manufacturing line in the Oklahoma City Works links products, people and information via computers made in that same plant.

—In the Atlanta Works, a threefold increase in the application of robotics, plus a renewed emphasis on supplier partnership and Quality Improvement Teams, has improved finished product yields in lightguide manufacturing by a factor of two.

"We're consistently driving manufacturing costs down and quality up," says Brian Conley, an AT&T manufacturing staff manager.

And that goes a long way toward satisfying even the toughest of customers.

In the Small, Smart World of Microchips



Squeaky clean engineering

Nora Wilcox is tough on contamination. A 1982 chemical engineering graduate of Bucknell University, she is responsible for the environmental quality of the special chambers called "clean rooms" where integrated circuits are manufactured at AT&T's Reading, Pennsylvania, plant. Each tiny chip is constructed with layers of silicon or gallium arsenide in a process that can involve 350 steps. This delicate process can be upset by contamination from a microscopic particle of dirt in the air, or even vibration. "It's just like the medical world," explains Nora. "If you're performing surgery in a sterile operating room, you don't want anything in there that doesn't belong."

Until recently the choice of materials for integrated circuits was simple: silicon, silicon or silicon. But now so-called exotic materials, such as gallium arsenide, are promising a generation of microchips that will set new records for speed and performance.

That's how *Business Week* magazine summed up a new development in microelectronics in October, 1986. A short time earlier, at its ultramodern manufacturing facility in Reading, Pennsylvania, AT&T had opened a production line using gallium arsenide as the base for new, high-performance integrated circuits.

"Gallium arsenide is faster, uses less power and produces less heat than silicon," according to John Crisp, an AT&T product planning manager. "As a result, it provides a decided advantage in the race to create ever smaller, more efficient integrated circuits."

It can be used, for example, to design circuits that may be particularly useful for satellites and similar applications, because gallium arsenide chips are more resistant to radiation damage than silicon.

For the time being, however, silicon circuits are less costly to fabricate and continue to direct the activities of everything from hand-held calculators to large mainframe computers. AT&T's Components and Electronic Systems group produces them in vast quantities for AT&T products and for sale outside the company.

AT&T's Biggest Customer

To simplify its contacts with the federal government, the company's biggest customer, AT&T in 1986 merged various groups into AT&T Federal Systems, which now handles the entire line of products and services offered to the government. The move resulted in lower overhead costs to AT&T and helped lead to a number of multi-million dollar contracts, including one with the Federal Aviation Administration (FAA) to improve air-traffic communications at more than 2,000 locations and a contract with the U.S. Customs Bureau to enhance data communications nationwide. The new organization also generated a contract to provide special telephones that will further guard the privacy of government communications. In November this unit put into service the Defense Commercial Telecommunications Network, a nationwide video, data and voice network using satellite and digital technology. The 10-year contract with the Defense Communications Agency could be worth \$1 billion when fully developed.



Manufacturing its own microcircuits gives AT&T great technical flexibility in designing products.

Silicon-based technology continues to yield increasingly powerful devices. One such device that is under intense development at AT&T is the CMOS (complementary metal-oxide semiconductor) integrated circuit.

"Our 32-bit UNIX[®] Microsystem is made up of five CMOS chips that process data twice as fast as earlier

Hello World, This Is AT&T Calling

Gallium arsenide, an "exotic" semiconductor used as a base for some of AT&T's newest, most sophisticated integrated circuits, is cut into wafers like these.

versions," explains Anne Schowe, a market planning manager responsible for strategic planning and sales of microprocessors.

Meanwhile, production of AT&T's megabit memory chip, capable of storing more than one million bits of data, grew steadily in 1986. It is used in AT&T's products and also sold to other manufacturers.

Also introduced was a new digital signal processor: an integrated circuit that processes very high volumes of data at blazing speed and with great accuracy. Typical applications for this new processor include secure voice terminals and data modems.

AT&T is among the leaders in developing surface-mount techniques. This technology permits both smaller component size and better adaptability to automated assembly.

Because microelectronics are sensitive to even tiny variations in electric current, AT&T produces a line of Uninterruptible Power Supplies that guard against blackouts, overloads and other electrical problems.

Says Jim Fletcher, AT&T's product manager for protected power: "These power units can be vital to safeguarding data and communications devices."

Although it faces fierce competition from domestic and overseas competitors, AT&T is confident of its ability to compete worldwide in the electronic components market. To augment its worldwide capability, the company in 1986 launched a joint venture in Spain, AT&T Microelectrónica de España S.A., and opened microelectronic design centers in Madrid and Munich. It also arranged for the sale of high voltage and linear bipolar integrated circuits in Europe.

The products are small, but their market impact is large.



It's 7:30 on a gray English morning in November, and AT&T's Art Pencek is reading the financial pages of the *London Times* as his regular commuter train leaves the Surrey village of Weybridge and heads for the center of London.

Halfway around the world in Hong Kong, it is already late in the afternoon, and Tim Schrader glances out the window in his AT&T office to see the Star Ferry making its way across Hong Kong harbor toward the mountains of Kowloon.

Wherever in the world AT&T does business today, it is approaching the global marketplace with a strategy that relies on alliances with major overseas partners in key countries.

AT&T has been the undisputed world champion in the business of moving information between countries for 60 years. During that time, AT&T has earned the confidence of the national telecommunications agencies in other countries whose

Personal computers being made for AT&T by Olivetti in Italy.

cooperation is essential to providing international service. Its satellites and undersea cables link the U.S. to 250 countries. International long distance service is one of the fastest growing areas of AT&T's business. In 1970 the company handled 90 million international calls. In 1986 the total exceeded 800 million, despite sharply increased competition. International callers have also enjoyed continuing decreases in AT&T's rates.

Since the FCC lifted restrictions on AT&T's international services less than four years ago, the company has added the kinds of specialized network services that U.S.-based customers have long counted on from AT&T.

International businesses are already placing orders with AT&T for circuits on TAT-8, which will be the



Flying into the future

Pete Travis is as familiar around American Airlines as one of the company's wide-body jets. A veteran of 10 years as AT&T's national account manager for this major customer, Pete makes it his business to match up American's growing needs for data networking technology with AT&T's growing capabilities to provide it. "Companies like American Airlines know the value of using information as a strategic tool," says Pete, who keeps an office at American's Data Center in Tulsa and is a regular visitor to the airline's corporate headquarters in Dallas. "As long as we meet their business needs, our potential is unlimited."

first fiber optic cable across the Atlantic when it goes into service in 1988.

"We've gone from being a new entrant in the international customer services business to where we now have the most complete service line of any company in the business," says Rod Sturm, an international marketing director for network services.

For the past several years AT&T's London office, headed by regional director Robert Holder, has also begun to make inroads in the United Kingdom's information movement and management equipment market.

Now AT&T is combining its traditional leadership in communications technology with its growing strength in data management to offer business customers international data networking services. Large multinational companies that have locations in the U.S. and overseas are prime customers for this kind of service.

It was such customers as these that brought Art Pencek to Norfolk House, a stately six-story office building on St. James's Square in the West End of London. Norfolk House was General Eisenhower's headquarters for part of World War II, and today the first floor is AT&T's headquarters in the United Kingdom.

From AT&T's office in downtown Frankfurt, Don Hassenbein works closely with the Deutsches Bundespost to serve international business.

"We want multinational customers to know that AT&T is not limited to the United States," says Hassenbein, AT&T's director of operations in Germany. "If they buy a network that reaches many countries, someone from AT&T will be there to help them."

In the vitally important Japanese market, AT&T formed a joint venture partnership with 18 Japanese companies to provide data transmission services within Japan, with connections to other countries. AT&T also has agreements with Toshiba for PBXs and local area networks, with Ricoh in minicomputers and business telephone systems, and with Kokusai Denshin Denwa, Japan's major long distance company, in voice and

private-line services.

"There is an exciting future here," says Mike Moody, who heads AT&T's efforts in Japan. "And we're right in the middle of it."

International data networking demands specialized hardware. Computer systems and digital PBXs are being marketed in Europe through Olivetti, the European office automation leader in which AT&T owns an equity interest. AT&T strengthened its alliance with Olivetti in late 1986 as AT&T's Italian partner took on new responsibility for the development and production of personal computers for both companies.

Data networking also requires network systems equipment for national telecommunications agencies. To date, most of AT&T's international network systems sales have been made in the Far East, and they are the concern of Tim Schrader in Hong Kong.

A veteran of AT&T's overseas efforts who has been located in the Far East since 1981, Schrader directs sales and service representatives scattered from mainland China to Singapore, South Korea, Taiwan, Thailand and Australia.

Major sales and installations of AT&T's world-class 5ESS digital switching system were made in China, Singapore and Taiwan during 1986. As part of AT&T's international strategy of alliances, the 5ESS switch is also planned for manufacture overseas through joint venture partnerships in Taiwan and Korea. In the Netherlands, the AT&T/Philips joint venture—AT&T and Philips Telecommunications—makes a version of the switch called the 5ESS/PRX.

In this competitive marketplace AT&T has an advantage beyond its leading technology.

"When we go into a country, we spend a lot of time and money checking out the customer country's existing system for ourselves instead of relying on secondhand specifications," Schrader says. "It's not the easiest way, but you build long-term relationships by consistently demonstrating quality and integrity."

Financial Section

1 986 was a difficult year. Business conditions and continuing mixed trends in our results made it clear that strong actions were needed to lower our costs and move forward with highly focused strategic priorities.

The financial section explains the Company's results of operations and financial position over the last three years and provides information about the sources and uses of funds. You will see, as we do, areas we need to improve.

In focusing on what we need to do, however, we do not mean to minimize progress made in some aspects of our financial performance. Throughout these difficult years, we have strengthened the Company's financial position. For example, we have made progress toward our objective of improving cash flow.

Funds from operations have provided a steadily greater proportion of total funds generated to support the business, increasing from 66% in 1984 and 82% in 1985 to 89% in 1986. At the same time, we reduced our reliance on external financing and decreased debt outstanding by \$2.2 billion since divestiture, including over \$1 billion in 1986.

These and other improvements also are part of our financial story, which is outlined on the following pages.



Management's Discussion and Analysis

Results of Operations

AT&T's financial results in 1986 were affected by charges for resizing its business in line with its refocused strategy and for other actions. These charges totaled \$3.2 billion and reduced net income by \$1.7 billion or \$1.59 per share. The reduction consisted of special charges of \$1.21 per share for business restructuring and an accounting change that increased depreciation reserves. Also included was a \$.38 per share charge for the writedown of assets and inventory. See Note (E) to the financial statements.

The provision for business restructuring includes costs to reduce the workforce by over 32,000 jobs and consolidate operations at various facilities and factories. These activities will take place principally over the next two years, but it is anticipated that positive effects from these efforts will not be reflected in results before 1988. Cost savings generated in 1987 are expected to be offset by lower revenues from the rental of equipment and persistent softness in some of the Company's equipment markets.

In 1986, total operating revenues decreased 1.0%, despite significant

growth in sales of long distance services. The decrease in revenues was attributable to weak markets for business products and a continuing decline in the rental of equipment to customers.

Total operating costs and expenses increased 7.4% in 1986, due to charges for business restructuring and for asset and inventory writedowns.

Partially offsetting these charges was a \$838 million reduction in pension expense, due to adoption of a new accounting rule required by the Financial Accounting Standards Board ("FASB") and a revised actuarial assumption reflecting higher expected returns on pension assets. See Note (C) to the financial statements.

A 26-day strike in June is estimated to have reduced net income by \$96 million or \$.09 per share in 1986.

Sales of services, net of access charge payments to local telephone companies to connect with their networks, increased by 9.9% in 1986 and 10.2% in 1985. Service revenues rose due to growth in long distance calling volumes, stimulated in part by AT&T's substantial rate cuts in each of the past three years.

AT&T and Subsidiaries

Consolidated Statements of Income

Years ended December 31

Dollars in millions (except per share amounts)

1986

1985*

1984*

Sales and Revenues

Sales of services, net of access charges (R)	\$19,108	\$17,393	\$15,781
Sales of products	10,178	11,235	10,189
Rental revenues	4,801	5,789	7,217

Total operating revenues	<u>34,087</u>	<u>34,417</u>	<u>33,187</u>
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Operating Costs and Expenses

Cost of services	8,954	9,097	8,984
Cost of products	7,196	7,066	6,405
Cost of rentals	2,099	1,936	2,100
Selling, general and administrative expenses	11,071	11,104	11,216
Research and development expense (B)	2,278	2,228	2,188
Provision for business restructuring	2,157	—	—

Total operating costs and expenses (C) (D) (E)	<u>33,755</u>	<u>31,431</u>	<u>30,893</u>
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Operating Income	332	2,986	2,294
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Other income—net (F)	402	252	525
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Interest expense (H)	613	692	867
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Income before income taxes	121	2,546	1,952
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Provision for income taxes (G)	(193)	989	582
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Income before cumulative effect of a change in depreciation method	314	1,557	1,370
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Cumulative prior years' effect (to December 31, 1985) of a change in depreciation method (E)	(175)	—	—
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Net Income	139	1,557	1,370
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Dividends on preferred shares	86	110	112
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Income applicable to common shares	<u>\$ 53</u>	<u>\$ 1,447</u>	<u>\$ 1,258</u>
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Weighted average common shares outstanding (millions)	1,071	1,058	1,010
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Earnings per Common Share before cumulative effect of a change in depreciation method	\$.21	\$ 1.37	\$ 1.25
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Cumulative prior years' effect of a change in depreciation method (E)	(.16)	—	—
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Earnings per Common Share	<u>\$.05</u>	<u>\$ 1.37</u>	<u>\$ 1.25</u>
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*1985 and 1984 amounts have been reclassified to conform to current presentation.

The notes on pages 22 through 30 are an integral part of the financial statements.

Management's Discussion and Analysis, continued

The rate cuts resulted primarily from reductions in connection fees charged to AT&T by local telephone companies.

Volume growth coupled with cost containment and reductions in pension cost resulted in a steady improvement in the profit margins on sales of services. The cost of services as a percent of service revenues was 46.9% in 1986 and 52.3% in 1985, compared with 56.9% in 1984. The Company believes its interstate earnings in 1986 and 1985 were within the limit allowed by the Federal Communications Commission ("FCC").

The FCC has prescribed a rate of return of 12.20% for the Company's interstate long distance services in 1987. The previously established level had been 12.75%. To target the new rate of return and reflect reductions in access charges, AT&T lowered prices significantly on January 1, 1987.

Future growth opportunities for sales of services lie with international calling and with service offerings for large business customers. AT&T also will continue to press for relaxation of regulatory constraints at both the federal and state levels.

Sales of products decreased 9.4% in 1986 due primarily to soft market

conditions and competitive pressures in the sale of business communications products and computers, as well as of certain network equipment. Sales increased 10.3% in 1985 largely through the resolution of chip shortages and of manufacturing difficulties that hindered product shipments in 1984.

Soft market conditions are expected to continue into 1987. In the long-term, there is significant potential for sales of equipment as part of data networking solutions provided to customers and in further establishing the Company's position in key global markets.

Cost of products increased to 70.7% of product revenues in 1986 from 62.9% in 1985, primarily as a result of price discounting and higher fixed costs per unit due to lower production volumes. In both 1986 and 1985 profits from sales of products were affected by charges for the writedown of inventory.

Rental revenues fell during the past two years as expected, due to customers deciding to purchase rather than lease telecommunications equipment. Rental revenues decreased 17.1% in 1986 and 19.8% in 1985.

The cost of rentals as a percent of rental revenues increased to 43.7% and

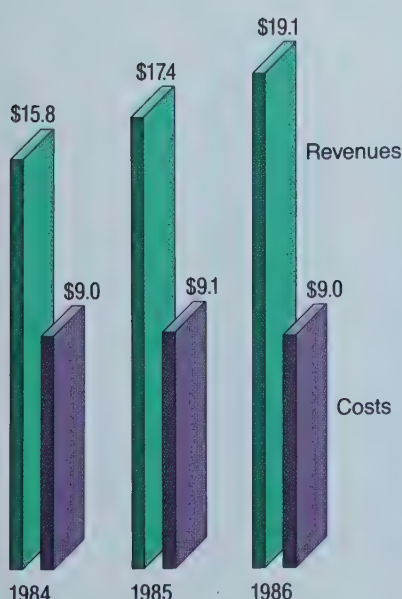
33.4% in 1986 and 1985, respectively, from 29.1% in 1984. Depreciation expense increased by over \$400 million in 1986. This increase was due to shortened depreciation lives and reductions in asset values, primarily in recognition of technological obsolescence.

Selling, general and administrative expenses remained essentially stable at 32.5% of total operating revenues in 1986, compared with 32.3% in 1985 and 33.8% in 1984, due largely to reductions in pension cost.

AT&T continued to make significant expenditures for research and development in each of the past three years. Research and development expense in 1986 and 1985 is net of \$183 and \$158 million, respectively, of capitalized software development costs that, under accounting rules in effect prior to 1985, would have been included in research and development expense. See Note (B) to the financial statements.

The provision for business restructuring of \$2.2 billion in 1986 represents the estimated cost to reduce the workforce and consolidate various facilities and factories over the next few years.

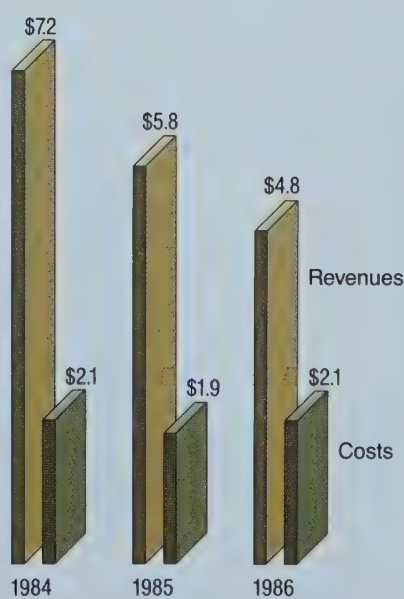
Other income-net in 1986 reflects an award for damages paid by the



Services
In Billions of Dollars



Products
In Billions of Dollars



Rentals
In Billions of Dollars

AT&T and Subsidiaries

Consolidated Balance Sheets

At December 31

Dollars in millions (except per share amounts)

1986**1985****Assets***Current Assets**

Cash and temporary cash investments	\$ 2,602	\$ 2,214
Receivables less allowances (R)	7,820	8,943
Inventories (I)	3,519	4,546
Deferred income taxes	1,477	785
Other current assets	154	163

Total current assets	15,572	16,651
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Investments (J) (K)	995	864
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Property, plant and equipment—net (L) (M) (R)	21,078	22,261
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Other assets	1,238	621
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Total Assets	<u>\$38,883</u>	<u>\$40,397</u>
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*Liabilities and Shareowners' Equity***Current Liabilities**

Accounts payable	\$ 4,625	\$ 4,934
Payroll and benefit related liabilities	2,499	2,199
Debt maturing within one year (N)	740	1,437
Dividends payable	338	348
Other current liabilities	3,015	2,504

Total current liabilities	<u>11,217</u>	<u>11,422</u>
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Other Liabilities and Deferred Credits

Long-term debt including capital leases (M) (O)	7,309	7,684
Other liabilities	1,144	412
Deferred income taxes	3,065	2,871
Unamortized investment tax credits	1,423	1,616
Other deferred credits	263	302

Total other liabilities and deferred credits	<u>13,204</u>	<u>12,885</u>
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Preferred shares subject to mandatory redemption (P)	<u>912</u>	<u>1,457</u>
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Common Shareowners' Equity (Q)

Common shares—par value \$1 per share	1,072	1,069
Authorized shares: 1,200,000,000		
Outstanding shares: 1,071,987,000 at Dec. 31, 1986;		
1,069,330,000 at Dec. 31, 1985		
Additional paid-in capital	8,544	8,483
Retained earnings	3,934	5,081

Total common shareowners' equity	<u>13,550</u>	<u>14,633</u>
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Total Liabilities and Shareowners' Equity	<u>\$38,883</u>	<u>\$40,397</u>
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*1985 amounts have been reclassified to conform to current presentation.

The notes on pages 22 through 30 are an integral part of the financial statements.

Republic of Iran and an increase in the value of the Company's equity investment in Olivetti. See Note (F) to the financial statements. Other income-net decreased in 1985 primarily due to a reduction in interest income because of a decline in the average level of cash and temporary cash investments and lower interest rates.

Interest expense has declined since divestiture due to reductions in total debt outstanding and lower interest rates.

The provision for income taxes in 1986 was reduced by \$1.4 billion as a result of charges for business restructuring and other major actions. This reduction was reflected primarily in deferred taxes. During 1986, the Company incurred \$1.5 billion in expense for income, property and other taxes, as compared with \$2.6 billion in 1985.

The effect the 1986 tax law changes will ultimately have on AT&T's future reported earnings and cash flow will depend upon the earnings growth rate, regulatory actions, and the impact the new tax law has on capital investment by corporations. AT&T's current projections for 1987 indicate the tax act will not have a material effect on earnings, but will give rise to an increase in tax payments.

The Company has not fully quan-

tified the effect of the FASB Exposure Draft, "Accounting for Income Taxes." This proposal would require companies to reduce their deferred tax reserves to reflect the new, lower tax rates, and to restore this reduction to earnings for financial reporting. It is believed the final FASB Statement, if issued as proposed, will increase net income in the year of implementation and that such an increase could be significant.

The cumulative prior years' effect of a change in depreciation method from group to unit for certain factory machinery and laboratory equipment reduced net income by \$175 million in 1986. See Note (E) to the financial statements.

Dividends on preferred shares decreased in 1986 through redemptions.

The impact of inflation on the Company's results of operations during 1986, 1985, and 1984 was insignificant year-to-year due to low rates of inflation.

Financial Condition

During 1986, AT&T improved its financial position while strengthening its capital structure and taking steps to restructure and resize its business.

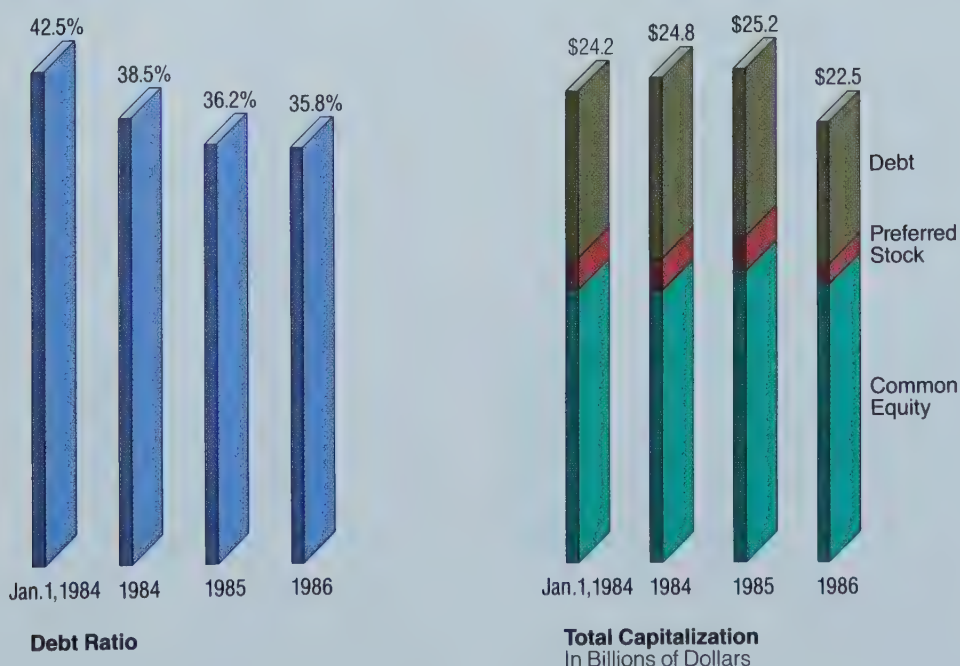
Total debt decreased \$1.1 billion

during 1986 due largely to the call of high-cost debt. The debt ratio was 35.8% at year-end and, excluding the provision for business restructuring and the change in depreciation method, would have been 33.8%. The debt ratio was 36.2% at December 31, 1985. Since divestiture, total debt outstanding has decreased by approximately \$2.2 billion.

During 1986 AT&T redeemed \$545 million of preferred stock, which consisted primarily of the \$77.50 preferred series. If preferred shares subject to mandatory redemption were included with debt, the debt ratio would have been 39.8% and 42.0% at December 31, 1986 and 1985, respectively.

Total common shareowners' equity decreased in 1986 through the payment of \$1.4 billion in dividends and from special charges to net income that reduced retained earnings by \$1.3 billion. The return on average common equity was 8.9% in 1986 before the charges for business restructuring and the change in accounting for depreciation, and 0.3% after these special charges.

Due to the Company's efforts to strengthen its capital structure and reduce its reliance on external financing, total capitalization has remained



AT&T and Subsidiaries

Consolidated Statements of Funds Flow

Years ended December 31

Dollars in millions	1986	1985*	1984*
<i>Funds (cash and temporary cash investments) at January 1</i>	\$ 2,214	\$ 2,140	\$ 5,312
Sources of Funds			
From operations:			
Net income	139	1,557	1,370
Depreciation	3,925	3,232	2,778
Net (increase) decrease in working capital, detailed below	2,661	13	(1,836)
Noncurrent portion of provision for business restructuring	1,159	—	—
Deferred income taxes—net	(391)	855	777
Less: Equity investment income in excess of dividends	24	23	20
Other adjustments for non-cash items	359	61	12
Total from operations before cumulative prior years' effect of			
a change in depreciation method	7,110	5,573	3,057
Cumulative prior years' effect of a change in depreciation method	175	—	—
Total from operations	7,285	5,573	3,057
From external financing:			
Increase in long-term debt including capital leases	729	141	171
Issuance of common shares	64	671	1,225
Increase in short-term borrowing—net	108	—	—
Total from external financing	901	812	1,396
From other sources:			
Divestiture cash flow settlements (R)	—	—	175
Sales to affiliate of long-term receivables—net (J)	—	408	—
Total from other sources	—	408	175
Total Sources of Funds	8,186	6,793	4,628
Uses of Funds			
Additions to property, plant and equipment—net (R)	3,629	4,178	3,462
Dividends paid	1,381	1,374	2,327
Retirement of long-term debt	1,893	569	427
Increase (decrease) in investments—net	(31)	402	76
Increase in other assets	477	123	435
Decrease in short-term borrowing—net	—	22	446
Redemption of preferred shares	545	37	29
Other—net	(96)	14	598
Total Uses of Funds	7,798	6,719	7,800
<i>Funds (cash and temporary cash investments) at December 31</i>	\$ 2,602	\$ 2,214	\$ 2,140
Working capital components (excluding cash and temporary investments,			
debt maturing within one year, dividends payable and deferred income taxes)			
(Increase) decrease in net receivables	\$ 1,123	\$ 420	\$ (5,105)
(Increase) decrease in inventories	1,027	(139)	(1,141)
(Increase) decrease in other current assets	9	119	286
Increase (decrease) in accounts payable	(309)	(142)	2,778
Increase (decrease) in payroll and benefit related liabilities	300	85	388
Increase (decrease) in other current liabilities	511	(330)	958
Net (increase) decrease in working capital	\$ 2,661	\$ 13	\$ (1,836)

*1985 and 1984 amounts have been reclassified to conform to current presentation.
The notes on pages 22 through 30 are an integral part of the financial statements.

Management's Discussion and Analysis, continued

relatively stable since divestiture.

Receivables continued to decrease in 1986 as a result of lower gross operating revenues and increased attention to credit and receivables management.

Inventories declined during the past year due to management efforts to improve integration of the sales, manufacturing, and delivery processes, as well as to writing down the value of certain products to fair market value.

Deferred income taxes increased as a result of a provision for business restructuring, since costs associated with these actions are not deductible for income tax purposes until incurred.

The value of investments increased in 1986 primarily as a result of an increase in the value of the Company's ownership interest in Olivetti and additional investment in joint ventures.

Property, plant and equipment—net declined due to increased accumulated depreciation. This increase reflects costs associated with consolidating facilities and factories, as well as a change in depreciation method. See Notes (E) and (L) to the financial statements.

Other assets increased in 1986 due to the adoption of Statement of Financial Accounting Standards No. 87 ("FAS 87").

FAS 87 requires a prepaid asset to be recorded for pension contributions in excess of pension cost reflected in the consolidated financial reports. FAS 87 outlines the method companies are to use for calculating pension cost for financial reporting, separating it from the method used for determining contributions to the pension fund.

The decrease in accounts payable reflects reductions in access charge rates and lower production volumes.

The provision for business restructuring increased payroll and benefit related liabilities, other current liabilities, and other liabilities, principally for costs associated with employee reductions.

Cash and temporary cash investments increased during 1986. The Company's cash management policy is to maintain amounts on hand necessary to meet short-term needs.

Funds Flow

During 1986, strong cash flow enabled the Company to meet its capital needs from internal sources and reduce debt and preferred shares outstanding.

Funds from operations provided 89.0% of total funds generated to support the business in 1986, an increase

from 82.0% and 66.1% in 1985 and 1984, respectively. Funds from operations have increased through improved asset management and reductions in pension cost.

In 1986, net income was reduced by \$1.7 billion as a result of charges for business restructuring, a change in depreciation method, and the writedown of assets and inventory. For the most part, these charges did not affect funds from operations in 1986.

The provision for business restructuring reduced net income by \$1.1 billion. Restructuring activities, which include both cash and non-cash affecting actions, will require payments in future years as associated actions occur. The noncurrent portion of provision for business restructuring is shown separately on the funds flow statement and the current portion is reflected in the various working capital components.

Deferred income taxes—net declined in 1986 principally due to the provision for business restructuring.

Depreciation increased in both 1986 and 1985, primarily as a result of shortened depreciation lives. The change in depreciation method reduced net income by \$175 million in 1986, but did



not reduce funds from operations since depreciation is a non-cash expense.

The net change in working capital, which is detailed on page 20, can be either a source or use of funds. In 1986, the change in working capital was a source of funds, reflecting in part the Company's success in improving the management of receivables and inventories. Primarily as a result of these efforts, cash and temporary cash investments increased in 1986.

Total funds provided from external financing in 1986 consisted largely of the refinancing of high-cost debt. In 1985 and 1984 funds from external financing were raised largely through the issuance of shares under the Shareowner Dividend Reinvestment and Stock Purchase Plan and employee savings plans. Effective October 1, 1985, AT&T began purchasing shares on the open market for these plans.

Debt retirements and preferred

share redemptions exceeded the amount of funds provided from external sources in 1986. As a result, net funds from financing activity were a negative \$1.5 billion, compared with \$184 million and \$494 million in 1985 and 1984, respectively. This indicates the substantial progress the Company has made toward strengthening its capital structure and reducing its reliance on external financing.

In 1986, actual contributions to the pension fund exceeded the pension cost reflected in the financial reports due to implementation of FAS 87. The excess was included in the increase in other assets and in other adjustments for non-cash items on the funds flow statement.

During 1986, net expenditures for capital investment, which includes net additions to property, plant, and equipment and net change in investments, amounted to \$3.6 billion and consisted largely of outlays for expansion and

modernization of the Company's long distance network.

Net capital investment slowed in 1986 due to the completion in 1985 of major programs for the expansion and modernization of manufacturing facilities, as well as to a decline in equipment offered on a rental basis. In addition, net capital investment of \$4.6 billion in 1985 included the formation of AT&T Credit Corporation, a wholly-owned unconsolidated subsidiary.

In 1987, capital investment is expected to be approximately \$3.9 billion. AT&T plans to spend about \$2.5 billion on digital network expansion to meet increasing demand for a variety of data and voice services worldwide. Expenditures also will be made for modernization of manufacturing facilities.

It is expected that capital requirements in 1987 will be met primarily from internal sources of funds.

Notes to Consolidated Financial Statements

Dollars in millions (except per share amounts)

(A) Summary of Major Accounting Policies

Consolidation

The consolidated financial statements include the accounts of AT&T and all its significant majority-owned subsidiaries other than AT&T Credit Corporation, which is accounted for under the equity method. Investments in 20 to 50 percent-owned companies and joint ventures are also accounted for under the equity method. Other investments are recorded at cost.

Industry Segmentation

AT&T operates predominantly in a single industry segment, the information movement and management industry. This segment constitutes more than 90% of the Company's total operating revenues, operating income, and identifiable assets. AT&T is also engaged in other activities which, in the aggregate, are not material and as such not separately reportable. These activities

include the furnishing of shareholder services such as stock transfer activities, and the distribution of computer equipment through retail outlets.

Provision for Pension and Death Benefits

During the first quarter of 1986, the Company adopted new pension accounting rules prescribed by the Financial Accounting Standards Board ("FASB"). See also Note (C).

Access Charges

Local telephone companies charge for access (or connection) to their local telephone networks. These access charges are collected from customers by the Company and paid to the local telephone companies. Since these charges are collected on behalf of the local telephone companies, access charges are not included in the Company's reported operating revenues. See also Note (R).

Income Taxes

Income tax expense includes the effects of timing differences between reported earnings and taxable earnings. The differences arise when certain transactions are included in the financial statements in years different from those in which they are reported for income tax purposes. Investment tax credits are deferred and amortized as a reduction of income tax expense over the useful life of the applicable property. See also Note (G).

Inventories

Raw materials, work in process, and completed goods inventories are stated at the lower of cost or market. Cost is principally determined on a first-in, first-out basis for raw materials and work in process and on an average cost basis for completed goods. See also Note (I).

Depreciation

Depreciation is calculated using either the group method or, commencing in 1986 for factory machinery and laboratory equipment, the unit method. Factory facilities placed in service subsequent to December 31, 1979 are depreciated on an accelerated basis. All other plant and equipment is depreciated on a straight line basis. See also Note (E).

Plant and Equipment

Commencing in 1984, the Company's investment in plant and equipment is stated at cost excluding intercompany profits. The Company's rate-regulated plant assets acquired prior to 1984 are recorded at cost, including reasonable intercompany profits in accordance with regulated accounting practices. At the time of divestiture, the carrying value of these assets was significantly reduced from economic value in a rate-regulated environment to economic value in a competitive environment. These economic value reductions were recorded primarily as increases in the depreciation reserve and included amounts required for the future restructuring of the business. As such restructuring plans became final, amounts for such expenses have been reclassified to current and long-term liabilities. Beginning in 1986, the gain or loss on sale of factory machinery and laboratory equipment in the normal course of the Company's business is reflected in operating results. When other depreciable plant is retired, the amount at which such plant has been carried in plant in service is credited to plant and generally charged to accumulated depreciation.

(B) Research and Development

Research and development expenditures are charged to expenses as incurred.

Commencing in 1985, as a result of a new FASB pronouncement, the Company changed its method of accounting for software production costs so that software development costs are charged

to research and development expense until technological feasibility is established after which remaining software production costs are capitalized. These costs are amortized to product costs over the estimated period of sales. Previously, all software production costs were charged as incurred to research and development. In 1985 \$158 of software production costs were capitalized and recorded as other assets. During 1985 \$42 of these costs were amortized as cost of products. During 1986, \$183 of software production costs were capitalized and \$93 were amortized.

(C) Provision for Pension and Death Benefits

The Company sponsors non-contributory defined pension benefit plans covering substantially all management and non-management employees. Benefits for management employees are based on a career average pay plan while the benefits for non-management employees are based on a non-pay-related plan.

The Company's pension contributions are made to trust funds, which are held for the sole benefit of pension plan participants. The Company's policy prior to 1986 was to make contributions in amounts equal to the pension cost for the period. In 1986, the Company conducted an in-depth study of its funding policy and concluded that the aggregate cost method, an acceptable funding method under the Employee Retirement Income Security Act of 1974, continues to be most appropriate for AT&T. It was also concluded that assumptions related to return on pension plan assets should be revised to reflect higher expected future investment returns on the pension plans' assets. For purposes of determining contributions, the Company assumes rates of investment return which vary by calendar year. The weighted average of such rates was 7.8%, 6.7% and 5.7% for 1986, 1985 and 1984, respectively.

During the first quarter of 1986, the Company adopted the Statement of Financial Accounting Standards No. 87 ("FAS 87"), "Employers' Accounting for Pensions." Adoption of FAS 87 required the Company to change from the aggregate cost method to the projected unit credit method for determining pension cost for financial reporting purposes. Additionally, FAS 87 required that the effects of retroactively applying the new method be amortized over the average remaining service period of active employees. In accordance with FAS 87, the pension cost computed for 1986 was negative in the amount of \$258 giving rise to a pension credit (i.e., pension income). Pension cost for 1985 and 1984 computed using the aggregate cost method was \$657 and \$1,043, respectively. (Pension cost includes amounts capitalized in inventory.) If FAS 87 had not been adopted in 1986, pension cost computed using the aggregate cost method would have been \$327, a decrease from 1985 pension cost primarily due to higher expected returns on pension plan assets. The reduction in

pension cost in 1985 from 1984 also reflects higher expected returns on plan assets.

1986 pension cost included the following components:

Service cost—benefits earned during the period	\$ 419
Interest cost on projected benefit obligation	1,296
Amortization of unrecognized prior service costs* . . .	13
Less: Return on plan assets	
Actual	\$4,000
Deferred portion	2,498
Net	1,502
Amortization of transition asset	484
1986 pension credit	\$ 258

*These costs pertain to 1986 plan amendments and are amortized on a straight line basis over the average remaining service period of active employees.

The following table provides the funded status of the plan:

	At December 31, 1986	At January 1, 1986
Actuarial present value of accumulated benefit obligation, including vested benefits of \$14,188 and \$12,563, respectively	\$16,269	\$14,392
Plan assets at market value, primarily listed stocks, corporate and governmental debt, and real estate	\$26,643	\$23,260
Less: Actuarial present value of projected benefit obligation . .	17,756	15,525
Excess of assets over projected benefit obligation	8,887	7,735
Unrecognized prior service costs . .	333	—
Less: Unrecognized transition asset	7,211	7,695
Unrecognized net gain	1,348	—
Prepaid pension cost	\$ 661	\$ 40

The unrecognized transition asset of \$7,695 at January 1, 1986, is being amortized as a credit to pension costs over the average remaining service period of active employees which is estimated to be 15.9 years.

The expected long-term rate of return on plan assets used in determining pension cost for 1986 was 8.0%. The assumed discount rate used to determine the projected benefit obligation was 8.0% at December 31, 1986 and 8.5% at January 1, 1986. The assumed rate of increase in future compensation levels used to measure the projected benefit obligation was 5.0%.

(D) Postretirement Benefits

The Company's benefit plan for retirees includes health care benefits and life insurance coverage.

The health care benefits are provided through insurance company contracts. The Company recognizes the cost of providing health care benefits by expensing the annual insurance premiums, which amounted to \$227 in 1986 for approximately 87,000 retired employees. This cost for 1985 and 1984, which is not separable between active and retired employees, amounted to \$868 and \$800, respectively, and included approximately 338,000 active and 76,000 retired employees for 1985 and approximately 365,000 active and 70,000 retired employees for 1984. Additionally, under the terms of the Divestiture Plan of Reorganization, the Company pays a portion of the health care benefit costs of the divested BOCs' pre-divestiture retirees. Such costs are expensed as incurred and totaled \$84 for 1986, \$59 for 1985 and \$92 for 1984.

The cost of providing postretirement life insurance benefits to employees who meet certain age and service requirements is determined and funded under the aggregate cost method. This cost was \$27, \$27 and \$36 for 1986, 1985 and 1984, respectively.

(E) Business Restructuring, Accounting Change and Other Charges

In 1986, the Company announced that major restructuring, downsizing and other actions would take place to refocus business operating strategies and improve competitiveness. These actions include Company-wide force reductions and facility consolidations, which are expected to occur primarily in 1987 and 1988, as well as a change in accounting for depreciation. The total estimated cost of these actions reduced the 1986 pretax income by \$2,489 (\$1,295 after taxes or \$1.21 per share) as described below:

—\$2,157 (\$1,120 after taxes or \$1.05 per share) including \$1,125 for force termination costs and \$1,032 for consolidation of factories, warehouses and other facilities. These costs are identified as "Provision for business restructuring" in the Company's financial statements.

—\$332 (\$175 net of taxes or \$.16 per share) due to a change from group to unit method of depreciation for certain factory machinery and laboratory equipment. This change was made in 1986 to provide better identification of service lives and better assignment of costs to products. The net income effect of \$175 for years prior to 1986 is shown in the financial statements as "Cumulative prior years' effect (to December 31, 1985) of a change in depreciation method." The effect of the accounting change on depreciation for any of the years presented is not material.

In addition, \$761 (\$409 after taxes or \$.38 per share) was charged in the fourth quarter 1986 for inventory writedowns, primarily for communications and office automation products reflecting soft market conditions, and for increased depreciation primarily related to rental equipment and other assets; this charge is included in various cost and expense categories as appropriate.

(F) Other Income—Net

In addition to income from sales of services, products, and rentals, the Company has income and expenses related to other sources as follows:

	1986	1985	1984
Interest, royalties and dividends . .	\$267	\$260	\$479
Equity earnings from unconsolidated entities	58	44	20
Gain (loss) on sale of fixed assets	—	(9)	42
Miscellaneous-net	77	(43)	(16)
Total	<u>\$402</u>	<u>\$252</u>	<u>\$525</u>

Miscellaneous-net for 1986 includes \$73 for an award for damages paid by the Republic of Iran. This award represents net amounts due the Company, plus interest, which were written off as uncollectible in previous years. Also included is a gain of \$40 reflecting the change in the Company's ownership interest in Ing. C. Olivetti & C., S.p.A, arising from Olivetti's issuance of new shares of common stock to outsiders at a price above AT&T's cost.

(G) Income Taxes

The provision for income taxes, detailed in the following table, recognizes that revenue and expense items may affect financial statements and tax returns in different periods (timing differences):

	1986	1985	1984
Current			
Federal	\$ 269	\$103	\$(228)
State and local	118	117	15
Foreign	7	22	9
	<u>394</u>	<u>242</u>	<u>(204)</u>
Deferred			
Federal	(410)	743	682
State and local	18	109	95
Foreign	1	3	—
	<u>(391)</u>	<u>855</u>	<u>777</u>
Deferred investment tax credits-net*	<u>(196)</u>	<u>(108)</u>	<u>9</u>
Total provision for income taxes	<u><u>\$(193)</u></u>	<u><u>\$989</u></u>	<u><u>\$ 582</u></u>

*Net of amortization of \$333 in 1986, \$300 in 1985, and \$309 in 1984.

The Company's income tax payments for tax year 1986 are expected to approximate \$400. The provision for 1986 income taxes shown above, however, is a negative amount because it reflects the future tax benefits associated with restructuring charges described in Note (E) and amortization of investment tax credits. The current federal income tax expense was negative in 1984 due to tax credits and a net operating loss for tax purposes which were carried back to prior years.

1984 and 1985 general business tax credits of \$420 carried forward to 1986, and all tax credits generated in 1986, are expected to be usable in the 1986 tax return, with the exception of approximately \$100 of research and experimentation and employee stock ownership plan credits, which may be carried forward at full value for 15 years.

The table below describes the effects of the major timing differences that caused increases (decreases) in the provision for deferred taxes in 1986 and 1985:

	1986	1985
Tax over book depreciation	\$ 403	\$638
Business restructuring, force and facility consolidation	(851)	234
FAS 87 pension accounting	279	—
Investment credits utilized	320	2
Inventory valuation	(230)	(26)
Reversal of a reserve for refunds . .	—	161
Other timing differences	(312)	(154)
Total	<u><u>\$(391)</u></u>	<u><u>\$855</u></u>

The major timing differences affecting 1984 deferred taxes were depreciation, sales-type leases, consolidation of facilities and special termination benefits.

The Company's provision for income taxes is negative for 1986 and lower than the federal income tax expense computed at the 46% statutory rate as explained in the following table:

	1986	1985	1984
Federal income tax at 46%	\$ 56	\$1,171	\$898
Amortization of investment tax credits	(333)	(300)	(309)
State and local income taxes, net of federal income tax effect	73	122	59
Research credits	(42)	(37)	(62)
Other differences	53	33	(4)
Provision for income taxes	<u><u>\$(193)</u></u>	<u><u>\$ 989</u></u>	<u><u>\$582</u></u>

In the absence of the provision for business restructuring described in Note (E), the provision for income taxes for 1986 would have been \$844.

The Tax Reform Act of 1986 did not have a material effect on 1986 net income.

(H) Interest Expense

Interest expense relates to the cost of short and long-term debt and interest incurred on other obligations and is net of interest amounts capitalized which were \$109, \$97 and \$75 in 1986, 1985 and 1984, respectively.

(I) Inventories

The Company maintains stocks of equipment and materials for sale to customers and use in the business, as follows:

	At December 31,	
	1986	1985
Completed goods (new and used products held for sale, lease or maintenance)	\$1,728	\$2,139
In process	1,300	1,661
Raw materials and supplies	491	746
Total	<u>\$3,519</u>	<u>\$4,546</u>

See Notes (E) and (V) for writedown of certain inventory values.

(J) Equity Investment in Finance Subsidiary

The Company's investment in AT&T Credit Corporation ("AT&T-Credit"), a wholly-owned unconsolidated subsidiary of AT&T, amounted to \$254 and \$343 at December 31, 1986 and 1985, respectively, and is accounted for under the equity method. AT&T-Credit's earnings of \$14 in each of the years 1986 and 1985 are included in other income in AT&T's consolidated statements of income. During 1986 and 1985, the Company sold to AT&T-Credit \$380 and \$921, respectively, in sales-type lease receivables-net of unearned interest income. AT&T-Credit has full recourse against AT&T for \$613 and \$625 of its net investment in finance assets at December 31, 1986 and 1985, respectively. Following are summarized balance sheets for AT&T-Credit:

	At December 31,	
	1986	1985
Net investment in finance assets . . .	\$1,013	\$632*
Other assets	81	78*
Total assets	<u>\$1,094</u>	<u>\$710</u>
Notes and other debt currently maturing	\$ 267	\$309**
Other current liabilities	219	74
Long-term debt	482**	235**
Shareowner's equity	<u>126</u>	<u>92</u>
Total liabilities and shareowner's equity	<u>\$1,094</u>	<u>\$710</u>

*Amounts have been reclassified to conform to current presentation.

**Includes \$125.0 due AT&T.

(K) Other Investments at Equity

As of December 31, 1986, the Company's major equity investments in addition to the investment in AT&T-Credit described in Note (J) are:

Ing. C. Olivetti & C., S.p.A. ("Olivetti")—22% of voting shares owned (25% as of December 31, 1985). The market value of the Company's investment in Olivetti, as measured by the closing price on the Milan, Italy stock exchange at December 31, 1986 and 1985 amounted to \$1,016, and \$523, respectively. See also Note (F).

Joint Venture with N. V. Philips—50% of voting shares owned.

Joint Venture with Lucky Gold Star Group—44% of voting shares owned.

The Company's investments at equity (excluding AT&T-Credit) were \$678 and \$472 at December 31, 1986 and 1985, respectively. The Company's cumulative equity investment in undistributed earnings of investees (excluding AT&T-Credit) at December 31, 1986 and 1985 amounted to \$64 and \$52, respectively. Dividends received from equity investment entities (excluding AT&T-Credit) were \$24 in 1986 and \$14 in 1985. See also Note (F).

(L) Property, Plant and Equipment

The Company's property, plant, and equipment accounts reflect assets used in manufacturing, selling, renting, servicing, research, and administrative operations. Both owned assets and those acquired through capital leases are included in the following table:

	At December 31,	
	1986	1985
Land and improvements	\$ 499	\$ 480
Buildings and improvements	6,199	5,813
Machinery and electronic equipment	30,857	29,627
Transportation equipment, furniture, tools, and other	2,333	3,264
Total property, plant, and equipment	39,888	39,184
Less: Accumulated depreciation	<u>18,810</u>	<u>16,923</u>
Property, plant, and equipment-net	<u>\$21,078</u>	<u>\$22,261</u>

Accumulated depreciation at December 31, 1986 includes \$1,059 for consolidation of facilities, a change in depreciation method, and increased depreciation, as discussed in Note (E).

(M) Leases

As Lessee

The Company leases land, buildings and equipment through contracts that expire in various years. The Company's future minimum lease payments under capital and noncancelable operating leases at December 31, 1986 are as follows:

	Capital Leases	Operating Leases
Minimum lease payments for year ending December 31,		
1987.....	\$188	\$ 555
1988.....	113	420
1989.....	61	262
1990.....	51	204
1991.....	47	176
Later years	226	703
Total minimum lease payments . . .	<u>\$686</u>	<u>\$2,320</u>
Less: Estimated executory cost		
on capital leases	11	
Imputed interest on capital leases	<u>235</u>	
Present value of net minimum		
capital lease payments	<u>\$440</u>	

Rental expense for operating leases was \$987 in 1986, \$1,041 in 1985 and \$856 in 1984.

As Lessor

The Company leases equipment to others on an operating lease basis; the majority of these leases are cancelable. The net investment in such equipment was as follows:

	At December 31,	
	1986	1985
Machinery and equipment	\$4,060	\$5,695
Less: Accumulated depreciation	1,521	2,969
Net investment	<u>\$2,539</u>	<u>\$2,726</u>

The minimum rentals to be received on operating leases are \$294 in 1987, \$138 in 1988, \$41 in 1989 and \$10 in 1990 for a total of \$483.

The Company also leases its products to others under sales-type leases. The receivables which arise under the long-term agreements are sold to AT&T-Credit. Also see Note (J).

(N) Debt Maturing Within One Year

The following table shows debt maturing within one year:

	At December 31,	
	1986	1985
Notes payable:		
Commercial paper	\$251	\$ 150
Other notes	9	2
Current portion of long-term lease obligations	155	146
Long-term debt maturing within one year	325	1,139
Total	<u>\$740</u>	<u>\$1,437</u>

(O) Long-Term Obligations

The long-term debt outstanding at December 31, 1986 is shown below by the years of maturity and interest rates:

Maturities	3 ⁷ / ₈ % to 6%	7% to 8 ⁷ / ₈ %	9% to 12 ⁷ / ₈ %	Total
1988	\$ 7	\$ 52	\$ 8	\$ 67
1989	7	52	8	67
1990	257	52	82	391
1991	7	52	82	141
1992-2001	2,387	1,584	322	4,293
2002-2011	—	1,185	—	1,185
2012-2026	—	600	300	900
Total long-term debt . .	<u>\$2,665</u>	<u>\$3,577</u>	<u>\$ 802</u>	7,044
Long-term lease obligations				285
Other				16
Less: Unamortized discount-net				36
Total long-term obligations				<u>\$7,309</u>

During 1986, the Company issued debt of \$675 as follows: \$300 of 9% debentures due in 2016; \$300 of 8⁷/₈% debentures due in 2026; and 100 billion Italian Lire (\$75 at December 31, 1986 exchange rate) 10¹/₄% notes due in 1993. This additional debt, combined with funds generated from operations, was used to reduce the level of external financing, as well as replace existing obligations with debt having lower costs.

None of the long-term debt above is secured by mortgage or pledge of the Company's assets, nor can it be converted to common or preferred shares. The trust indentures covering the long-term debt do not place any restriction on payment of dividends.

(P) Redeemable Preferred Shares

The Company has 100,000,000 authorized shares of preferred stock at \$1 par value. The outstanding issues are as follows:

Shares Outstanding at December 31	\$77.50 Issue, Stated Value \$1,000	\$3.64 Issue, Stated Value \$50	\$3.74 Issue, Stated Value \$50
1984	525,000	9,400,000	9,700,000
1985	512,500	9,100,000	9,400,000
1986	25,000	8,500,000	8,800,000

During each of the years 1986, 1985 and 1984 the Company redeemed 12,500 shares of the \$77.50 issue. The Company also redeemed during 1986 475,000 shares at stated value plus a redemption premium of \$46.50 per share. The balance of 25,000 shares will be redeemed in 1987 through the sinking fund. Of that amount, 12,500 shares will be redeemed under the mandatory provision and an additional 12,500 shares will be redeemed through an optional provision.

\$3.64 preferred shares may be redeemed by the Company at a premium of \$2.29 per share on or before April 30, 1987 and at a diminishing premium thereafter.

\$3.74 preferred shares may be redeemed by the Company at a premium of \$2.35 per share on or before January 31, 1988 and at a diminishing premium thereafter.

The \$3.64 and \$3.74 issues described above contain a requirement for sinking fund redemption each year of 3% of the number of shares issued without a premium; an additional 3% may be redeemed at the Company's option. During each of the years 1985 and 1984, the Company purchased and cancelled 300,000 shares each of the \$3.64 and \$3.74 issues to be applied toward the succeeding year's sinking fund requirements. In 1986, the Company purchased and cancelled 600,000 shares each of the \$3.64 and \$3.74 issues, to meet the future sinking fund requirements. In December 1986, the Company announced plans to exercise the optional redemption provision of the \$3.74 issue and as a result redeemed 600,000 shares on February 1, 1987 at par.

The total sinking fund requirements for all series of preferred shares subject to mandatory redemption are \$43 for 1987 and \$30 per year for 1988 through 1991. These sinking fund requirements are cumulative. All preferred shares are cumulative and rank prior to the common shares both as to dividends and on liquidation but have no general voting rights. However, if dividends on any series of preferred shares are in default in an amount equal to six quarterly dividends, the number of directors of the Company will be increased by two and the holders of all preferred shares will have the exclusive right, voting separately as a class, to elect such two additional directors so long as such default continues.

(Q) Common Shareowners' Equity

The changes in the Company's common shareowners' equity for 1984, 1985 and 1986 are shown below:

	Common Stock	Additional Paid-in Capital	Retained Earnings
Balance at January 1, 1984	\$ 966	\$6,598	\$4,804
Net income 1984	—	—	1,370
Dividends declared			
On \$77.50 Preferred	—	—	(41)
On \$ 3.64 Preferred	—	—	(34)
On \$ 3.74 Preferred	—	—	(37)
On Common shares \$1.20 per share	—	—	(1,222)
Shares issued under shareowner plans	45	696	—
Shares issued under employee plans	27	460	—
Divestiture adjustments—Note (R) .	—	93	82
Other changes	—	(4)	(40)
Balance at December 31, 1984 . .	<u>\$1,038</u>	<u>\$7,843</u>	<u>\$4,882</u>
Net income 1985	—	—	1,557
Dividends declared			
On \$77.50 Preferred	—	—	(40)
On \$ 3.64 Preferred	—	—	(34)
On \$ 3.74 Preferred	—	—	(36)
On Common shares \$1.20 per share	—	—	(1,273)
Shares issued under shareowner plans	12	234	—
Shares issued under employee plans	19	406	—
Other changes	—	—	25
Balance at December 31, 1985 . .	<u>\$1,069</u>	<u>\$8,483</u>	<u>\$5,081</u>
Net income 1986	—	—	139
Dividends declared			
On \$77.50 Preferred	—	—	(20)
On \$ 3.64 Preferred	—	—	(32)
On \$ 3.74 Preferred	—	—	(34)
On Common shares \$1.20 per share	—	—	(1,285)
Shares issued under employee plans	3	61	—
Redemption of preferred shares . .	—	—	(22)
Other changes	—	—	107
Balance at December 31, 1986 . .	<u><u>\$1,072</u></u>	<u><u>\$8,544</u></u>	<u><u>\$3,934</u></u>

Book value per common share amounted to \$12.64, \$13.68 and \$13.26 at December 31, 1986, 1985 and 1984, respectively.

(R) Other Information

—In the Statements of Funds Flow, funds from other sources in 1984 include settlements of divestiture cash flow, divestiture asset assignment, and other claims that increased funds by \$175, of which \$82 is included in retained earnings and \$93 is included in additional paid-in capital in the Balance Sheet. See Note (Q). In addition, the investment in property, plant and equipment—net was increased by \$520 in 1985 and \$541 in 1984 resulting from reclassification of reserves previously accrued for restructuring the corporation and adjusting the carrying value of assets.

—Receivables at December 31, 1986 and 1985 have been reduced by allowances for doubtful accounts of \$317 and \$269, respectively.

—Sales of services are net of access charges of \$19,593, \$21,521 and \$20,633 for 1986, 1985 and 1984, respectively. See also Note (A).

(S) Stock Options

The AT&T Stock Option Plan provides for granting options to selected key managers for future purchase of the Company's common shares at the market price on the date of the grant. The plan also provides for granting Stock Appreciation Rights ("SARs") to certain holders of options; exercise of either an option or an SAR cancels the other. Under the plan, a maximum of 20,000,000 shares are available for grant of options.

Option transactions during 1986 are shown below:

	Number of Shares Currently Under Option	Available for Option
Balance at January 1, 1986	3,295,536	16,623,794
Options granted	1,947,400	(1,947,400)
Options exercised*	(182,090)	—
Options forfeited	(150,645)	150,645
Balance at December 31, 1986**	<u>4,910,201</u>	<u>14,827,039</u>
Exercisable at December 31, 1986	<u>3,088,076</u>	

*Average option price was \$18.28

**Average option price was \$20.95

During 1986, SARs were granted for 263,399 shares for an average exercise price of \$24.66, and no SARs were exercised. As of December 31, 1986, 575,506 SARs remained unexercised, of which 312,107 SARs were exercisable as of December 31, 1986.

(T) Contingencies

The Company is a defendant in a number of lawsuits and party to a number of other proceedings which have arisen in the normal course of its business, including certain regulatory proceedings in which revenues are being collected by the Company subject to

possible refund. In the opinion of the Company's legal counsel, any monetary liability or financial impact of such lawsuits and proceedings to which the Company might be subject after final adjudication would not be material to the consolidated financial position of the Company.

(U) AT&T Technologies, Inc.

Financial information for AT&T Technologies, Inc., a wholly-owned subsidiary of the Company which is included in the AT&T consolidated financial statements, is summarized in the following table. This summarized consolidated financial information of AT&T Technologies, Inc. includes sales of \$3,718, \$4,369 and \$4,072 for 1986, 1985 and 1984, respectively, to AT&T and its affiliates; such sales are eliminated in the AT&T consolidated financial statements.

	1986*	1985**	1984
Sales	<u>\$10,830</u>	<u>\$12,180</u>	<u>\$11,887</u>
Gross profit on sales	<u>\$ 3,361</u>	<u>\$ 3,969</u>	<u>\$ 3,842</u>
Cumulative prior years' effect (to December 31, 1985) of a change in depreciation method (E)	<u>\$ 90</u>	<u>—</u>	<u>—</u>
Net income (loss)	<u>\$ (357)</u>	<u>\$ 553</u>	<u>\$ (205)</u>
Current assets	<u>\$ 4,687</u>	<u>\$ 4,447</u>	
Net property, plant and equipment, long-term investments, and other noncurrent assets	<u>2,962</u>	<u>3,857</u>	
Total assets	<u>\$ 7,649</u>	<u>\$ 8,304</u>	
Current liabilities	<u>\$ 2,674</u>	<u>\$ 2,431</u>	
Long-term debt and other noncurrent liabilities	<u>1,487</u>	<u>1,851</u>	
Equity capital	<u>3,488</u>	<u>4,022</u>	
Total liabilities and equity capital	<u>\$ 7,649</u>	<u>\$ 8,304</u>	

*Includes \$866 for provision for business restructuring, which is included in the amounts described in Note (E).

**Amounts have been reclassified to conform to current presentation.

On January 1, 1986, AT&T Technologies, Inc.'s 50% ownership of Bell Telephone Laboratories, Incorporated, amounting to \$538, was transferred to AT&T.

(V) Quarterly Financial Information (Unaudited)

Summarized quarterly financial results for 1986 and 1985 appear in the table below:

	First	Second	Quarters Third	Fourth	Total
1986					
Operating revenues	\$8,710	\$8,421	\$8,427	\$8,529	\$34,087
Operating costs and expenses	7,674	7,628	7,602	10,851	33,755
Income (loss) before cumulative effect of a change in depreciation method	529	422	533	(1,170)	314
Cumulative prior years' effect (to December 31, 1985) of a change in depreciation method (E)	(175)	—	—	—	(175)
Net Income (loss)	354	422	533	(1,170)	139
Per common share:					
Earnings (loss) before cumulative effect of a change in depreciation method . . . . .	.47	.37	.48	(1.11)	.21
Earnings (loss) . . . . .	.31	.37	.48	(1.11)	.05
1985					
Operating revenues*	\$8,306	\$8,559	\$8,658	\$8,894	\$34,417
Operating costs and expenses*	7,597	7,723	7,999	8,112	31,431
Net Income	354	461	378	364	1,557
Earnings per common share . . . . .	.31	.41	.33	.32	1.37

*Amounts have been reclassified to conform to current presentation.

1986

Quarterly results include decreases in pension expense due to implementation of FAS 87 and a revised actuarial assumption. The net income effect of the difference between 1986 and 1985 pension expense is \$416. See Note (C).

Fourth Quarter: Includes decrease in net income of \$1,504 due to charges for business restructuring activities and other actions. See Note (E).

Third Quarter: Includes increase in net income of \$39 for an award for damages paid by the Republic of Iran and \$29 attributable to the change in the Company's ownership interest in Olivetti. See Note (F). Also includes a reduction in net income of \$25 attributable to the Company's efforts to improve facility utilization. See Note (E).

Second Quarter: Results were adversely impacted by a strike which is estimated to have reduced net income by \$140. The annual effect is estimated to be \$96.

First Quarter: Includes decrease in net income of \$175 due to the cumulative effect of a change in method of accounting for depreciation as described in Note (E).

1985

Fourth Quarter: Includes increases in net income attributable to the prior three quarters of approximately \$49 due to the change in accounting for software and \$70 due to a reduction in pension cost. See Notes (B) and (C).

Third Quarter: Includes an unusual writedown of the value of certain technologically obsolete equipment in inventory which increased operating costs by \$180.

During the third quarter, a liability of approximately \$875 was recorded for the cost associated with force reductions and consolidation of operations and facilities, of which \$550 was absorbed by reserves previously accrued for that purpose and the remaining \$325 was charged to operating expenses. Concurrently, there was a reversal of a reserve previously accrued for possible refunds that was no longer required which approximated the aforementioned charge.

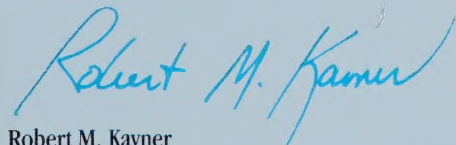
Report of Management

The preceding financial statements, which consolidate the accounts of American Telephone and Telegraph Company and its subsidiaries, have been prepared in conformity with generally accepted accounting principles.

The integrity and objectivity of data in these financial statements, including estimates and judgments relating to matters not concluded by year-end, are the responsibility of management as is all other information included in this Annual Report unless indicated otherwise. To this end, management maintains a system of internal accounting controls. Our internal auditors monitor compliance with it in connection with an annual plan of internal audits. The system of internal accounting controls, on an ongoing basis, is reviewed, evaluated and revised as necessary in view of the results of internal and independent audits, management recommendations, changes in the Company's business, and other conditions which come to management's attention. Management believes that the Company's system, taken as a whole, provides reasonable assurance (1) that financial records are adequate and can be relied upon to permit the preparation of financial statements in conformity with generally accepted accounting principles and (2) that access to assets is permitted only in accordance with management's authorizations. Recorded assets are compared with existing assets at reasonable intervals and appropriate action is taken with respect to any differences. Management also seeks to assure the objectivity and integrity of the Company's financial data by the careful selection of managers, by organizational arrangements that provide an appropriate division of responsibility, and by informational programs aimed at assuring that its policies, standards, and managerial authorities are understood throughout the organization. Management is also aware that changes in operating strategy and organizational structures can give rise to disruptions in internal controls. Special attention is given to controls while these changes are being implemented.

These financial statements have been examined by Coopers & Lybrand, independent Certified Public Accountants. Their examinations are in accordance with generally accepted auditing standards and include selective tests of transactions and a review of internal accounting controls.

The Audit Committee of the Board of Directors, which is composed of Directors who are not employees, meets periodically with management, the internal auditors, and the independent auditors to review the manner in which they are performing their responsibilities and to discuss auditing, internal accounting controls, and financial reporting matters. Both the internal auditors and the independent auditors periodically meet alone with the Audit Committee and have free access to the Audit Committee at any time.



Robert M. Kavner
Senior Vice President and Chief Financial Officer

Report of Independent Certified Public Accountants

To the Shareowners of American Telephone and Telegraph Company:

We have examined the consolidated balance sheets of American Telephone and Telegraph Company and subsidiaries at December 31, 1986 and 1985, and the related consolidated statements of income and funds flow for the years ended December 31, 1986, 1985 and 1984. Our examinations were made in accordance with generally accepted auditing standards and, accordingly, included such tests of the accounting records and such other auditing procedures as we considered necessary in the circumstances.

In our opinion, the financial statements referred to above present fairly the consolidated financial position of American Telephone and Telegraph Company and subsidiaries at December 31, 1986 and 1985, and the consolidated results of their operations and changes in their financial position for the years ended December 31, 1986, 1985 and 1984, in conformity with generally accepted accounting principles which, except for the changes, with which we concur, in the methods of accounting for pensions and depreciation as described in Notes C and E to the consolidated financial statements, have been applied on a consistent basis.



1251 Avenue of the Americas
New York, New York
February 9, 1987

Three Year Summary of Selected Financial Data (unaudited)

On January 1, 1984, AT&T was required by Court order to divest those parts of the Bell System operating telephone companies that provided local exchange and exchange access services and printed directory advertising. As a consequence of the divestiture, the financial results of the pre-divestiture years are not comparable to those of 1986, 1985 and 1984 and are not included below.

Dollars in millions (except per share amounts)	1986*	1985	1984
Results of Operations:			
Total operating revenues	\$34,087	\$34,417	\$33,187
Total operating costs and expenses	33,755	31,431	30,893
Net income	139	1,557	1,370
Dividends on preferred shares	86	110	112
Income applicable to common shares	53	1,447	1,258
Earnings per common share . . . . .	.05	1.37	1.25
Dividends declared per common share	1.20	1.20	1.20
Assets and Capital:			
Property, plant and equipment—net.	\$21,078	\$22,261	\$21,343
Total assets	38,883	40,397	39,773
Long-term debt including capital leases	7,309	7,684	8,718
Preferred shares subject to mandatory redemption	912	1,457	1,494
Common shareowners' equity	13,550	14,633	13,763
Capital investments	3,598	4,580	3,538
Other Information:			
Operating income as a percent of operating revenues.	1.0%	8.7%	6.9%
Net income as a percent of operating revenues.	0.4%	4.5%	4.1%
Return on average common equity	0.3%	10.1%	9.5%
Market price per common share at year-end	\$25.00	\$25.00	\$19.50
Book value per common share at year-end	\$12.64	\$13.68	\$13.26
Debt ratio at year-end	35.8%	36.2%	38.5%
Employees at year-end	316,900	337,600	365,200

*1986 data have been significantly affected by major charges for business restructuring, an accounting change and other charges. See Note (E) to the financial statements.

Market and Dividend Data (unaudited)

The stock prices shown in the adjoining table are of AT&T common stock, which is primarily traded on the New York Stock Exchange, and also on the Philadelphia, Boston, Midwest, and Pacific exchanges, as well as on off-board markets. The prices are obtained from the Composite Tape encompassing the trading on all of the above markets. As of December 31, 1986, there were 2,782,102 holders of record of the common stock, a decrease of approximately 145,000 from December 31, 1985. The Company also has preferred shares outstanding that rank prior to the common shares as to dividend. The payment of common dividends by the Company will depend upon the earnings and financial requirements of the Company and other factors. Details of the common shareowners' equity and preferred shares are in Notes (Q) and (P), respectively, to the financial statements.

Calendar Quarter		Market Price		Dividends Declared
		High	Low	
1986	1st	\$25 ³ / ₈	\$20 ⁷ / ₈	\$.30
	2nd	26	21 ⁵ / ₈	.30
	3rd	25 ¹ / ₂	22 ³ / ₈	.30
	4th	27 ⁷ / ₈	22 ¹ / ₈	.30
1985	1st	\$22 ¹ / ₈	\$19	\$.30
	2nd	24 ⁵ / ₈	20 ³ / ₈	.30
	3rd	24 ¹ / ₄	20	.30
	4th	25 ³ / ₈	19 ⁷ / ₈	.30

Board of Directors

James E. Olson

Chairman of the Board

Robert E. Allen

President and Chief Operating Officer, AT&T

Howard H. Baker, Jr.

Partner in the law firms of Vinson & Elkins and Baker, Worthington, Crossley, Stansberry & Woolf

Catherine B. Cleary*

Former Chairman of the Board, First Wisconsin Trust Company

James H. Evans

Former Chairman of the Board, Union Pacific Corporation

Peter E. Haas

Chairman of the Board, Levi Strauss & Company

Philip M. Hawley

Chairman of the Board, Carter Hawley Hale Stores, Inc.

Edward G. Jefferson

Former Chairman of the Board, E.I. du Pont de Nemours and Company

Belton K. Johnson

Owner, Chaparrosa Ranch

Juanita M. Kreps

Former U.S. Secretary of Commerce

Charles Marshall

Vice Chairman, AT&T

Donald E. McHenry

Research Professor, Georgetown University

Donald S. Perkins

Former Chairman of the Board, Jewel Companies, Inc.

Henry B. Schacht

Chairman of the Board, Cummins Engine Company, Inc.

Michael I. Sovern

President, Columbia University

Morris Tanenbaum

Vice Chairman, AT&T

Randall L. Tobias

Vice Chairman, AT&T

Rawleigh Warner, Jr.

Former Chairman of the Board, Mobil Corporation

Joseph D. Williams

Chairman of the Board, Warner-Lambert Company

Thomas H. Wyman

Former Chairman of the Board, CBS Inc.

Office of the Chairman

James E. Olson

Chairman of the Board

Robert E. Allen

President and Chief Operating Officer

Charles Marshall

Vice Chairman of the Board

Morris Tanenbaum

Vice Chairman of the Board

Randall L. Tobias

Vice Chairman of the Board and Chairman and Chief Executive Officer of AT&T Communications and Information Systems

Senior Executives and Heads of Major Units

John E. Berndt

President and Chief Executive Officer AT&T International, Inc.

James R. Billingsley

Senior Vice President Federal Regulation

W. Frank Blount

President Network Operations Group

Michael A. Brunner

Executive Vice President Federal Systems

Harold W. Burlingame**

Senior Vice President Public Relations and Employee Information

Vittorio Cassoni

Senior Vice President Data Systems Division

H. Weston Clarke, Jr.**

Senior Vice President Personnel

Richard C. Holbrook

Senior Vice President Business Sales

Robert M. Kayner

Senior Vice President and Chief Financial Officer

Gerald M. Lowrie

Senior Vice President Public Affairs

John M. Nemecek

Executive Vice President Components and Electronic Systems

John T. O'Neill

Executive Vice President Network Systems Products

Victor A. Pelson

President General Markets Group

Ian M. Ross

President AT&T Bell Laboratories

John L. Segall

Senior Vice President Corporate Strategy and Development

Alexander C. Stark, Jr.

Senior Vice President Communications Systems

Thomas R. Thomsen

President AT&T Technology Systems Group

Paul M. Villiere

Executive Vice President Network Systems Marketing and Customer Operations

E. Wayne Weeks, Jr.

President AT&T Network Systems Group

Sam R. Willcoxon

President Business Markets Group

John D. Zeglis

Senior Vice President and General Counsel

Lydell L. Christensen

Corporate Vice President and Secretary

C. Perry Colwell

Corporate Vice President and Controller

S. Lawrence Prendergast

Corporate Vice President and Treasurer

*Retiring from the Board in April, 1987

**Effective February 1, 1987, Mr. Burlingame became Senior Vice President, Personnel, succeeding Mr. Clarke, who retires March 31, 1987. Marilyn Laurie, Group Vice President-Public Relations, was elected to succeed Mr. Burlingame effective February 1, 1987.

American Telephone and Telegraph Company
550 Madison Avenue, New York, NY 10022

